

LIMBOLANE
GAMES



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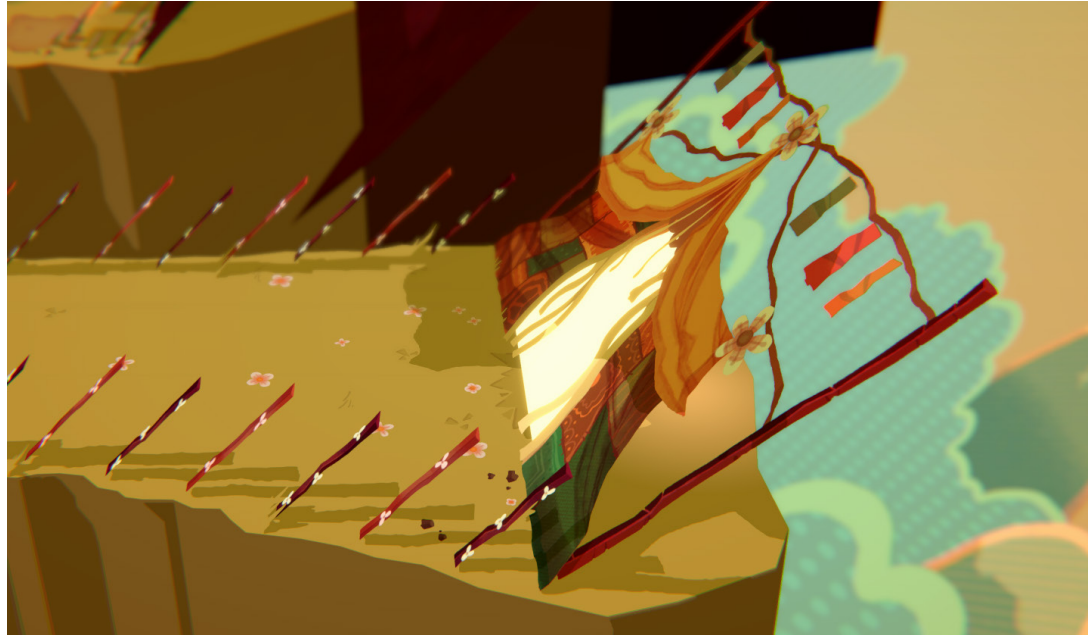


Day: Great God Grove is split between two perspectives: god scenes- fully 3d modeled- and overworld areas- entirely made of 2D sprites.

We wanted the overworld to have a more painter-ly feel than Smile For Me; something that looked like like a picture-book illustration. To do this, sprites in Great God Grove are at a 45° angle to the ground. This differs from most games with 3D worlds and 2D sprites, which have their sprites at a 90° angle to the ground (the “paper mario perspective”). The 45° solution looks very nice, but results in a lot of restrictions, such as no sprite being able to rotate along the Z-axis without intersecting the ground plane.

top-left: First concept painting of in-game art style
bottom-left: In-game screenshot of the same area

below: Same area from an angle never seen in-game



Yugo’s illustrated characters have a distinct style, and I wanted to support that style while also being smart about asset reuse. The result was the “Paper Doll” sprite system the game uses to combine any number of head and body sprites.

A guide to how we are going make our sprites by combining bodies and heads! Tentatively titled Paper Doll Sprites

Turn 3 bodies and 3 heads into 9 different poses!

To begin, we can notice that each of these 3 body sprites holds its head at a difference angle relative to the ground. It adds a lot of personality!

Each body also has a slightly different connecting point for the head!

-1.5° -1.3° 6.2°

ground

These little angles and positional differences add a lot of personality! We shouldn't just staple them all on vertically, and in the same place

Boring!!!

Jeez can I get an angle here?

By getting the game to properly attach heads to bodies at the appropriate angle, we can get a ton of different poses!

9 wonderful Poses! Wowie Zowie

So, how does the game know how to put the heads on?

We'll do it using something I'm calling: **Paper Doll Method!**

You know how paper dolls have joints where two holes meet? That is exactly what we're going to do! If every head has a hole, and every body has a hole, the game can just line up the holes!

But how does the game know what angle to put the heads on? Well, body sprites will be created with two dots. The pink one is the "hole" and it shows where the joint with the head will be placed

The blue dot tells the game what orientation to place the head at! If you imagine an arrow from the pink dot towards the blue dot, that arrow shows the direction to the top of the head!

Pure blue dot (0, 255, 255)
Pure pink dot (255, 0, 255)

In this sample, I made the dots big and obvious, but in the sprites you be as small as possible. A single pixel if possible!

The distance between the dots isn't important, as long as the pink dot is in the right place

Drawings dots on the body sprite is okay because they'll be covered up by the head! But we can't draw the pivot dot on the head. It would be visible in-game!! Instead, you can draw the head on a 1024 x 1024 canvas with a dot drawn in the bg (not exported). The dot can be placed anywhere, but it needs to work for all heads in the game! (512X, 256Y) (near the bottom center) might be a good choice. Try messing with it! Draw all heads pointing straight up! They will be tilted in-game.

Template canvas + Clean sprite drawn on canvas = Game knows where the hole should go

Specs and summary!

Heads will be exported as PNGs from a 1024x1024 canvas. Pick a spot to be the "pivot" for ALL (or at least MOST) heads in the game

Bodies will be exported as PNGs from a 2048x2048 canvas. Make sure that the feet are standing on the center bottom of the frame!

Each sprite should have two dots: one pink (255, 0, 255), and one blue (0, 255, 255).

The pink dot will line up with the head sprite's pivot point.

The blue dot indicates which way the head should point (relative to the pink dot)

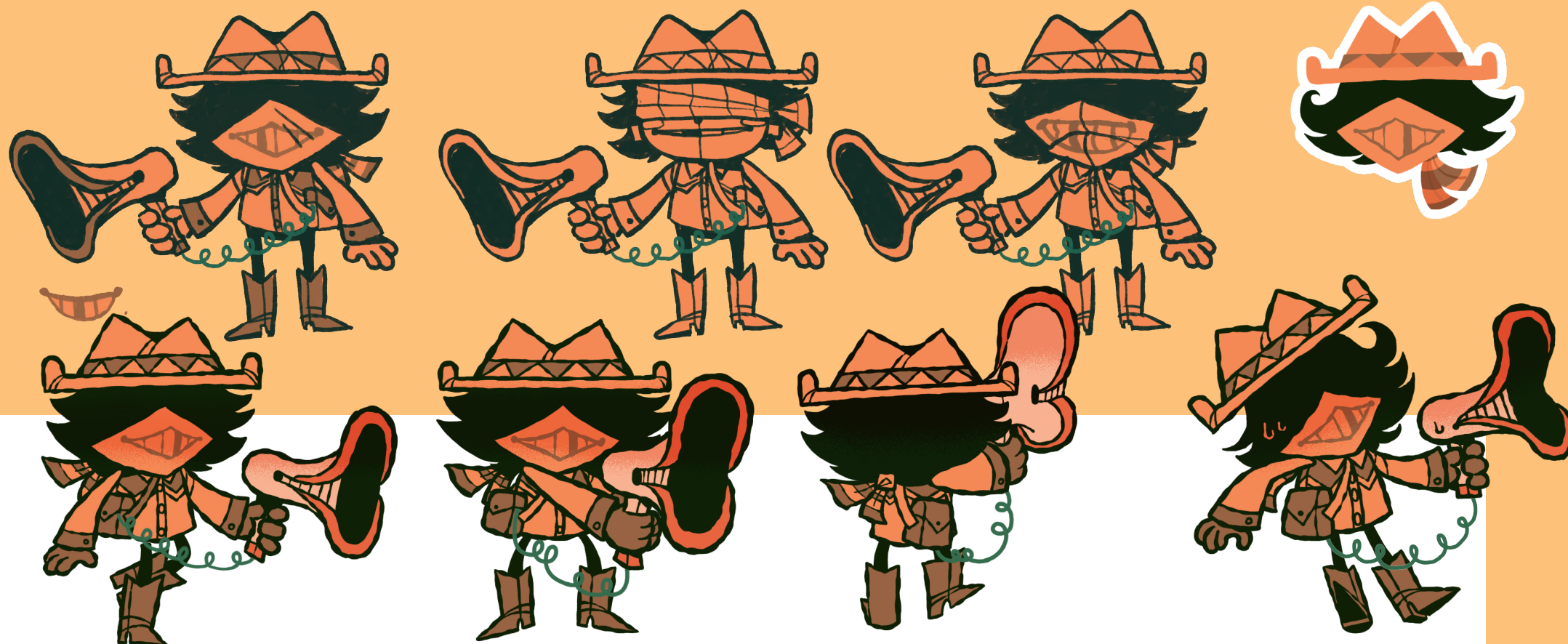
Dots should be as small as possible while still remaining those exact color codes. The blue dot shouldn't be too far, otherwise it might not be covered up by the head sprite in-engine!

In-engine, the head pivot will be lined up with the pink dot! Then, the head will be rotated so that its meridian passes through the blue dot!

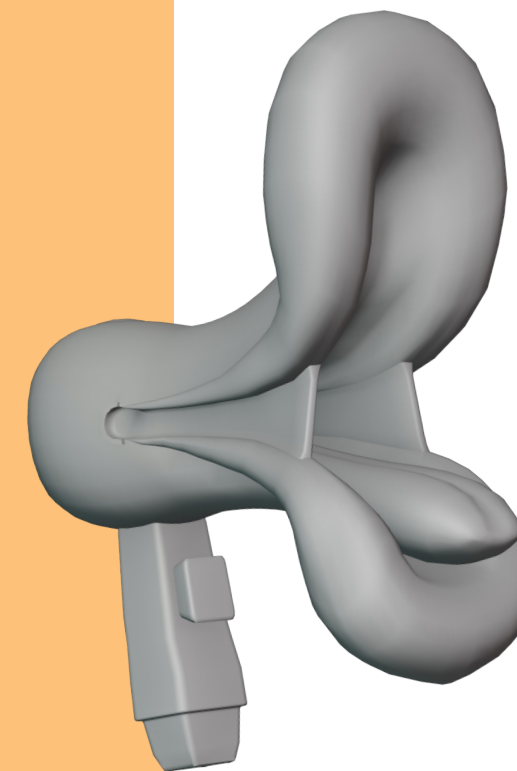
Now, any head sprite can be combined with any body sprite, and the head will be appropriately placed/rotated for that body sprite!

And Voila! That's an in-game sprite!

above: Internal document by Day explaining the Paper Doll Sprite system to Yugo for the first time

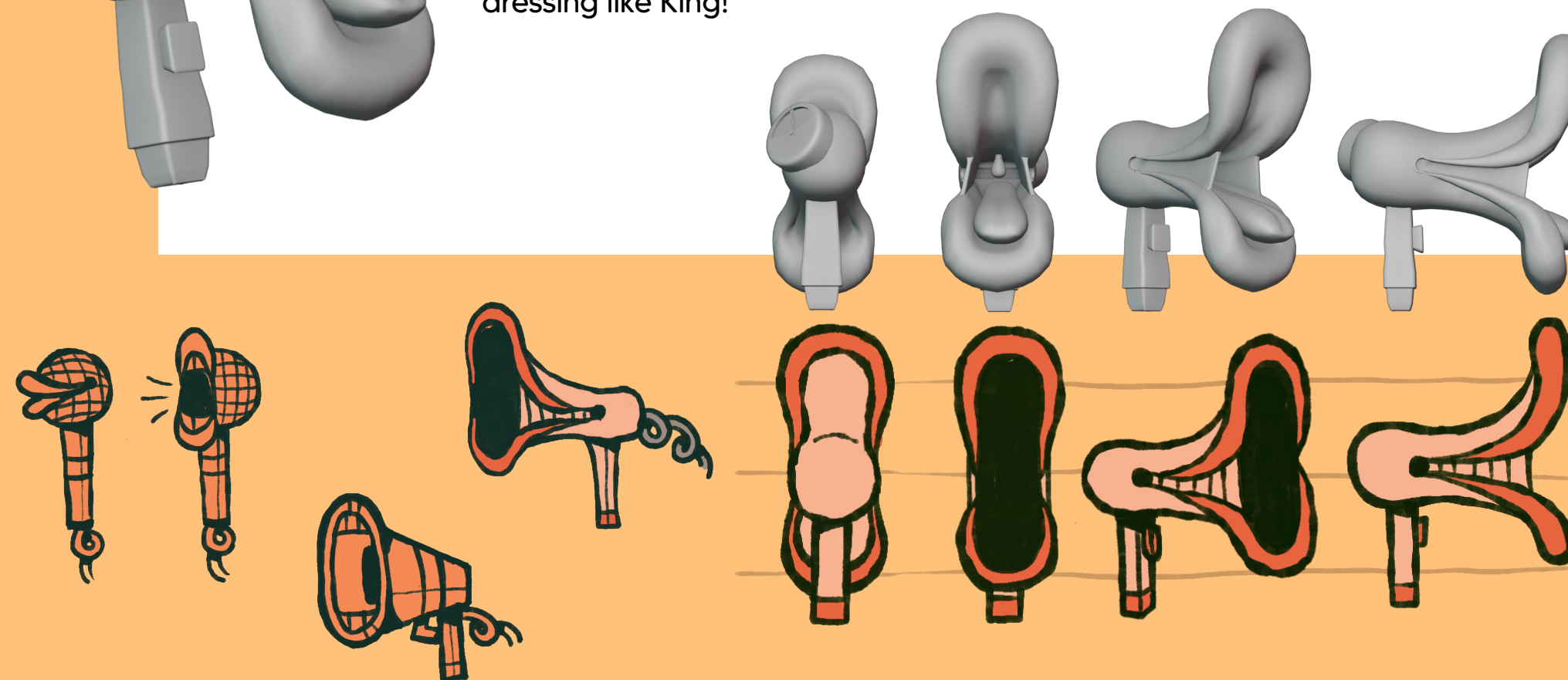


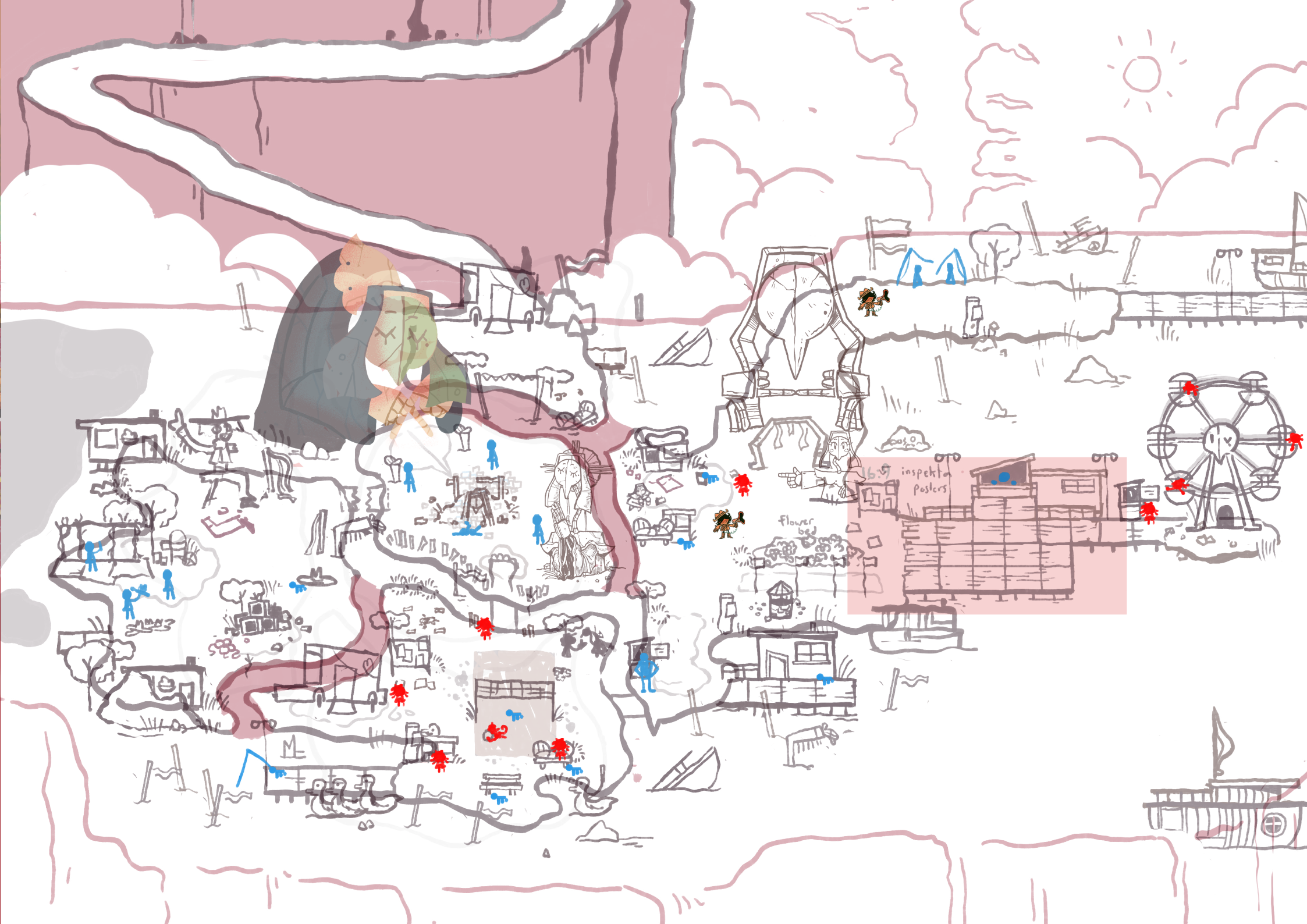
Day: Great God Grove is the first game we've made with a visible protagonist. Thematically, it was important that the game feel like the player's adventure, no matter who the player is. Therefore the protagonist had to be nonspecific enough to be a self-insert for most players. Yugo designed a character with a covered face and covered skin, to represent as few identifying traits as possible.

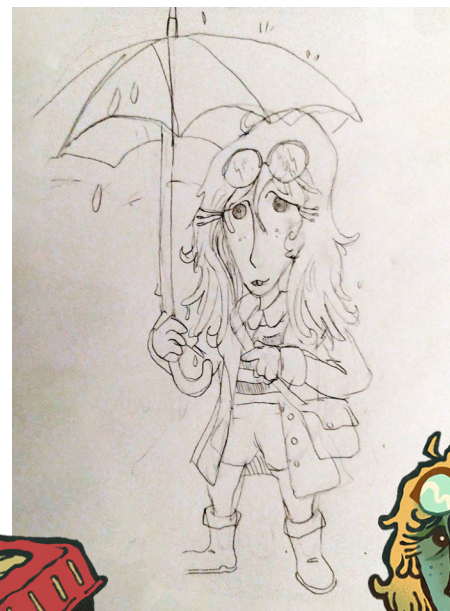


Yugo: The root design for Godpoke came to me almost instantly. The only design anchors I had going into designing our player character was "mail-carrier", and "no skin or face showing". I had been studying vaqueros (the original 'cowboys') at that time, many of whom kept themselves almost completely covered by their outfits. The idea of a wild-west styled mail carrier was very appealing to me, and that's how Godpoke's design came to be.

The in-game reason why Godpoke looks like this is because they were simply a tourist hyped to attend King's ascension party. They were just dressing like King!







left: Character concept sketches for Skolopendra and Sirena by Samanthuel Louise Gilson

Yugo: Our guest characters were all designed starting from sketches by friends. The lovely Sirena and Skolopendra were designed from sketches by Samanthuel (Splendidland), who made FRANKEN RPG and Megaman Sprite Comic, and worked on Deltarune. We both love Leiji Mautsumoto's nearly-identical women and you can see that inspiration in Sirena.

Razzma was designed by artist Val Eerie, who used his Mexican and bigender identity as inspiration. She's one of my favorite characters in the game!



above: Razzma character concept by Val Eerie

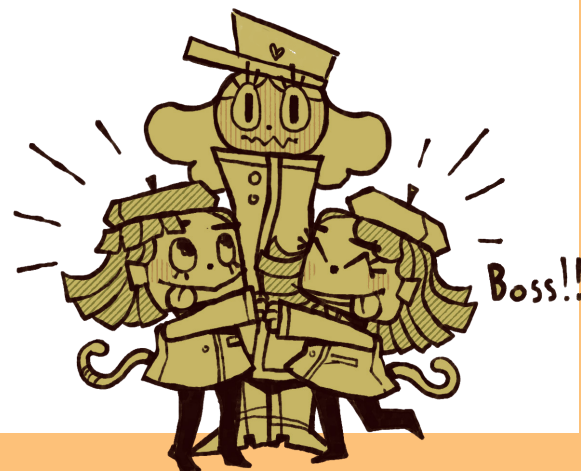
Day: With games (as with books) it's often a good idea to write the first chapter last, once you know exactly what you need to set up. We started bringing in guest character designs late in development, when the Grove Cove (chapter 1) was the last undesigned area. This why all of the guest characters appear in the Cove, with the exception of Cottin in BuzzHuzz.

Three of the game's guest character designs were made for a contest using our free face-designing game FACE LOVE! (2020). Players posted screenshots of faces they made, and 3 designs made it in. Because all of the face-pieces in FACE LOVE! were drawn by Yugo, they only needed minimal redesign to fit in the God Grove style.

right: FACE LOVE! (web, 2020) screenshots taken 2022 for character design contest. From left to right: Marsha Silvertongue by Bella Moore, Cottin Candie by noroalia, Housecat Man by TheSpryte



above: Housecat Man character concept by TheSpryte



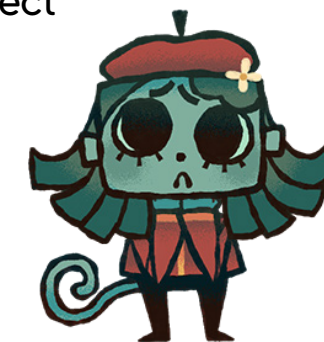
above: Bizzyboy pose concept (Day)

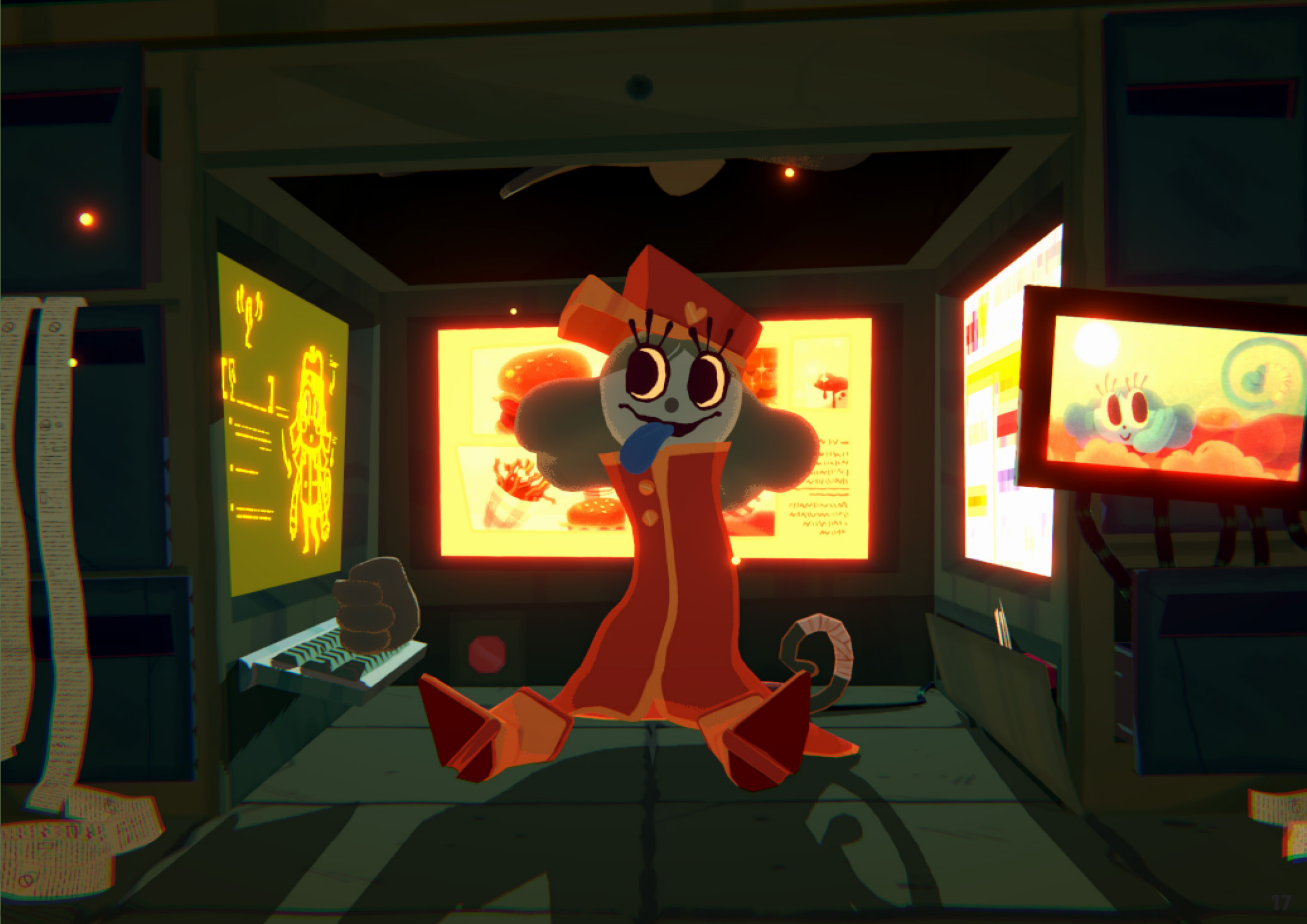
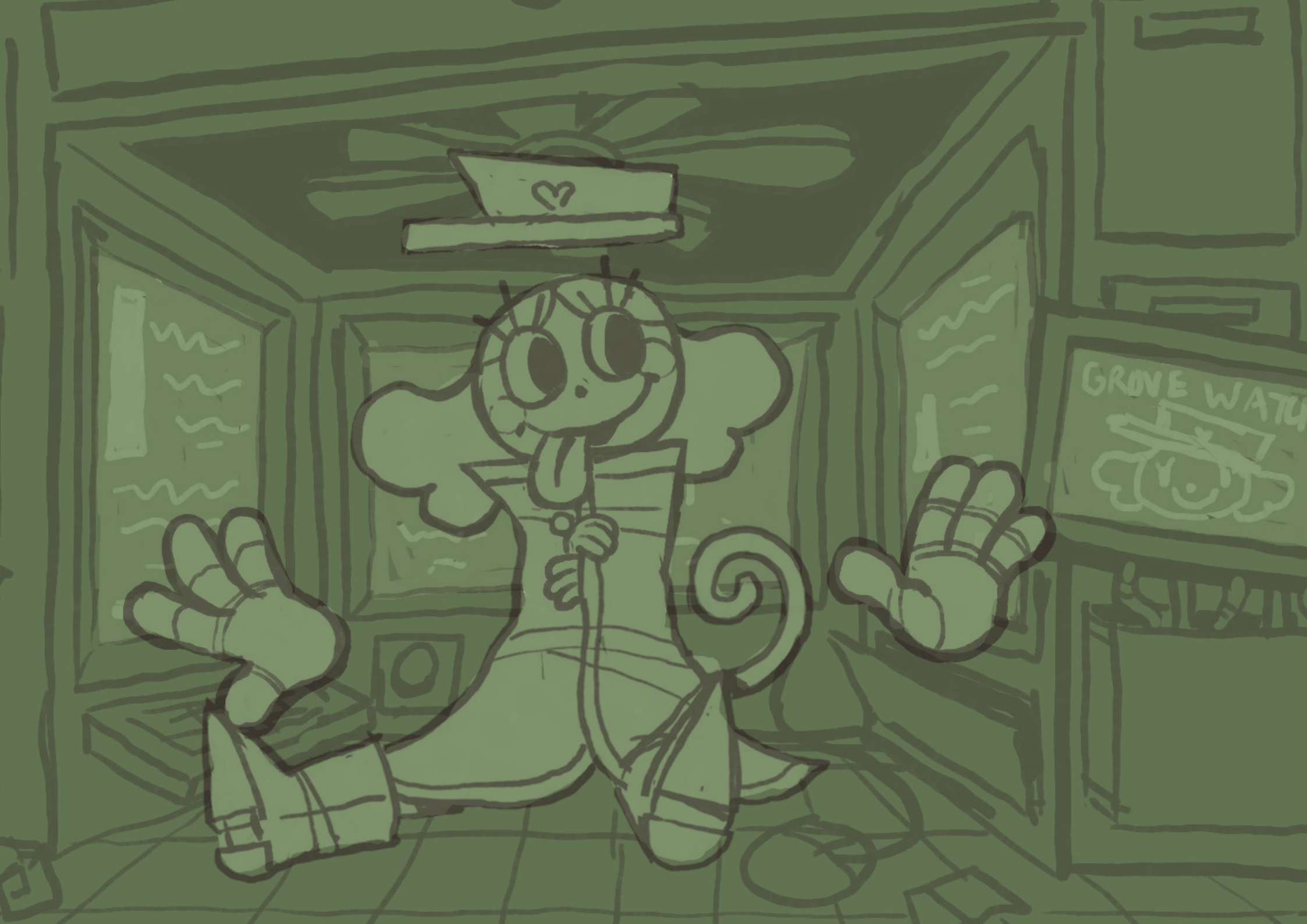


Day: The Bizzyboys' names were originally 1 letter each as an internal shorthand early in development when they didn't have any distinguishing characteristics. As the Bizzyboys' story came together, their abbreviated names turned into motif used to symbolize their plight- how identity can be flattened and used as a dangling carrot by a fascist establishment. P's story of rebellion only came together late in the writing stage- but to me, it's the crux of what the game is about.

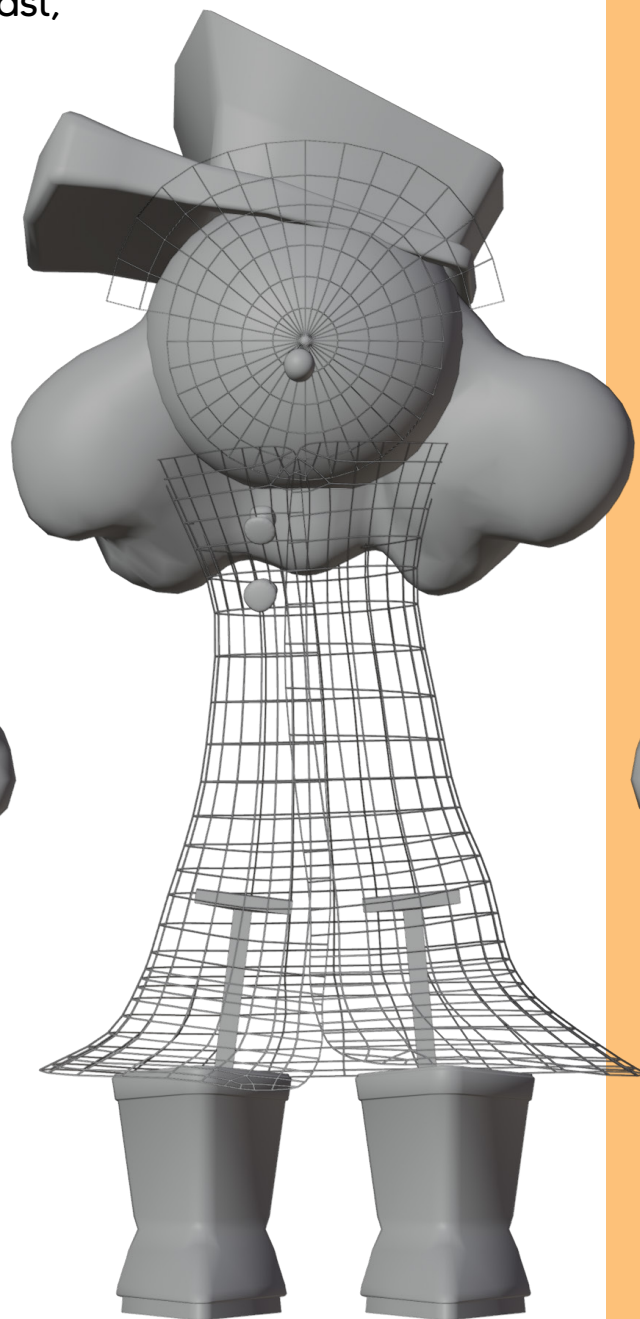
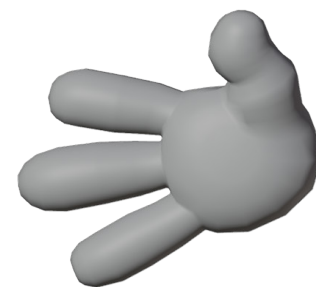
Yugo: Capochin's name was brewed via an extremely stupid 3-layer-pun. "Capo", the mafia leadership rank (the Bizzyboys being the goons, he their wrangler), "capuchin" the monkey, and finally, it all together sounding like "captain". It's not very smart and thus, is perfect for him.

The real answer as to why the Bizzyboys are all like that... Well, I was watching The Sopranos for the first time and the idea of adorable tiny idiot mafiosos appealed to me. That and uh, how it relates to the themes of the game of course.

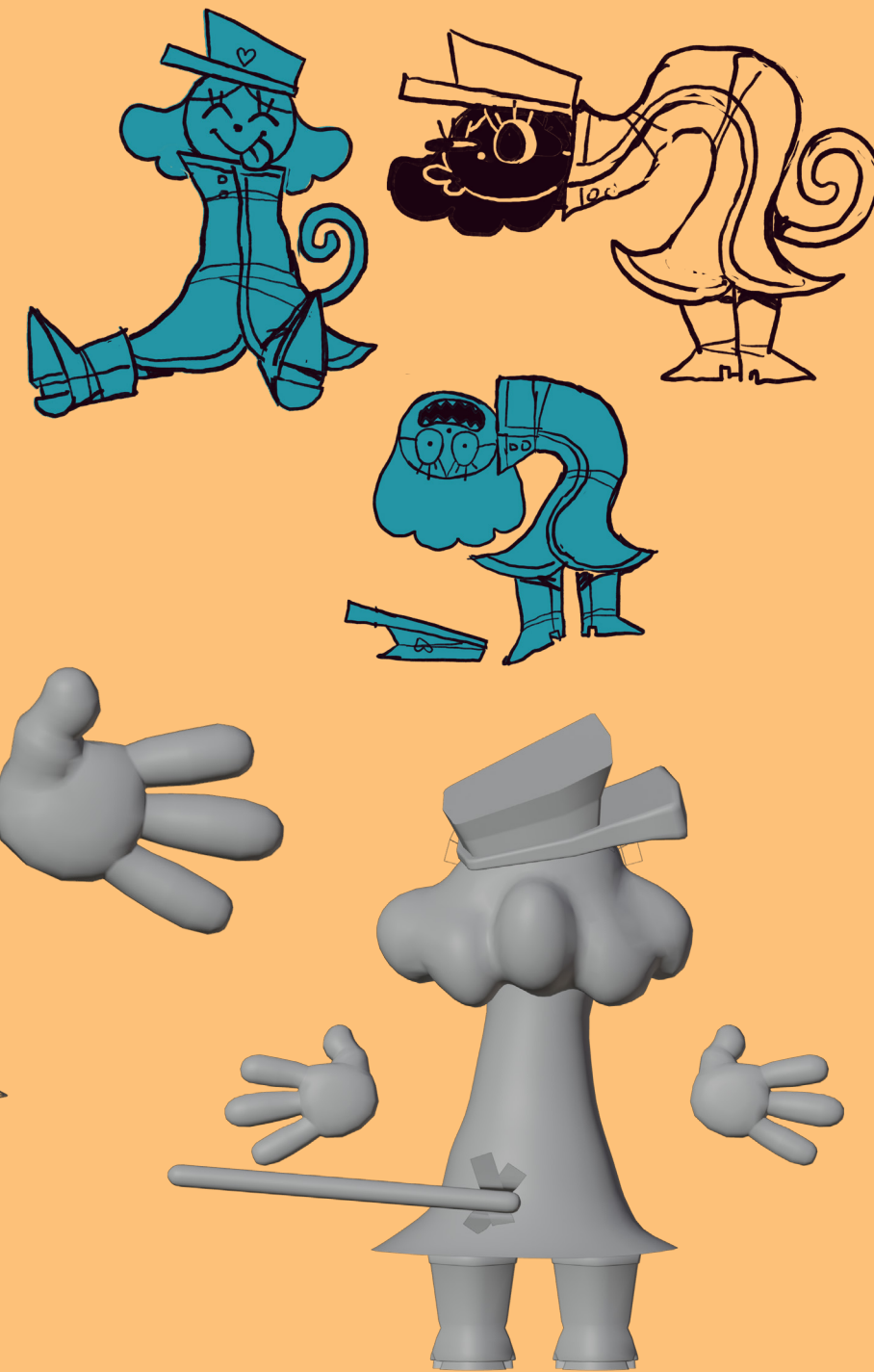




Yugo: I designed Inspekta last, out of all of the gods. He was a hard one to nail down—I actually designed the Bizzyboys first, and went from there. Because of his position in the story, I wanted him to be disarmingly, sickeningly cute, but also capable of being genuinely scary. I looked to a great example of this for inspiration—Charlotte from Madoka Magica, which I’m told has traumatized an entire generation of anime watchers. You can see the influence in the face, his eyes in the finale, and finally how dang LONG the fella is.



Inspekta



Bangs/hairline should be a drawn on texture.
Face layer will sit ABOVE hairline.

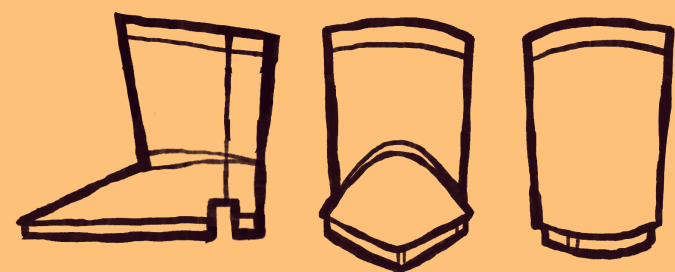


Nose

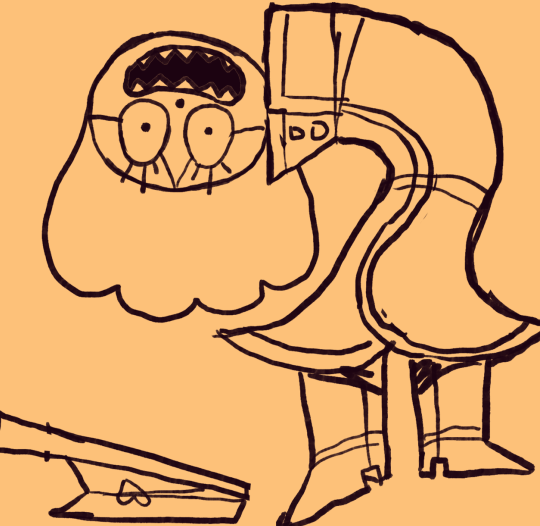
Boots can be made taller if we feel the character silhouette needs it.



Floaty hands are exactly the same as Cornacia's, except they're a different texture.



Tongue!



Body is very bendable and snake-ey. Needs to be able to sit and stand as well.

Inspekta

right: Fragment (Peru); wool; H x W: 9.5 x 9.5 cm (3 3/4 x 3 3/4 in.); Bequest of Marian Hague; 1971-50-1; Retrieved from Cooper Hewitt, Smithsonian Design Museum November 9, 2004



Yugo: Inspekta's odd "bending over backwards" pose was inspired by the way shamans from Paracas textiles were depicted in textiles almost 3000 years ago.

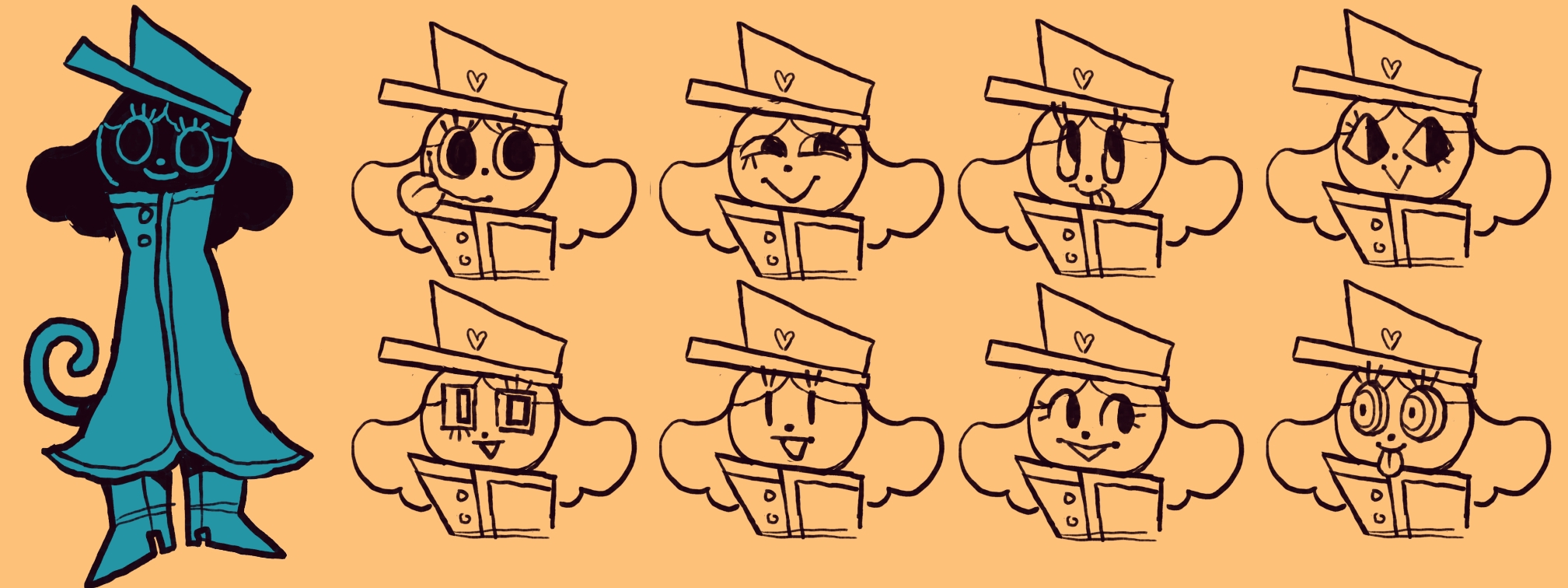
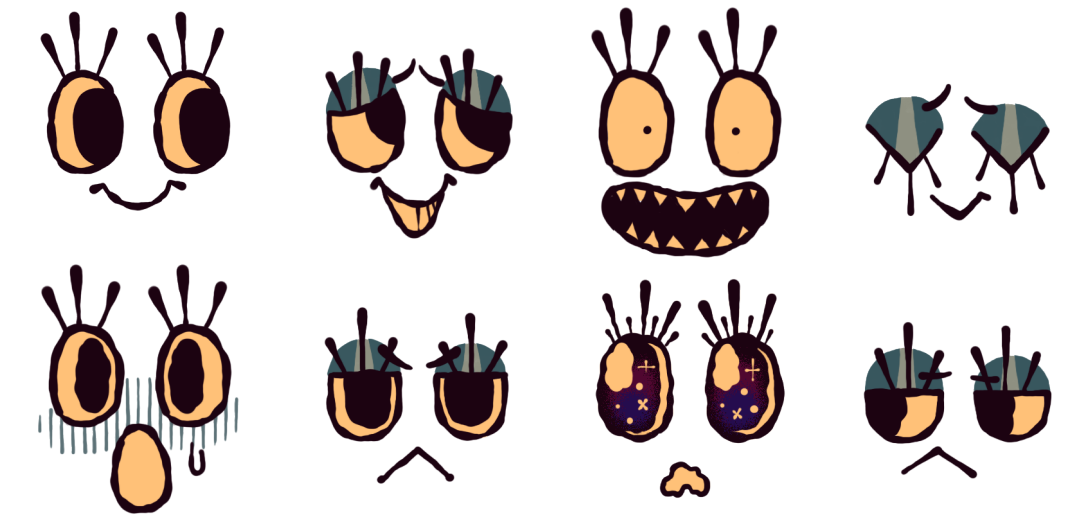


Inspekta

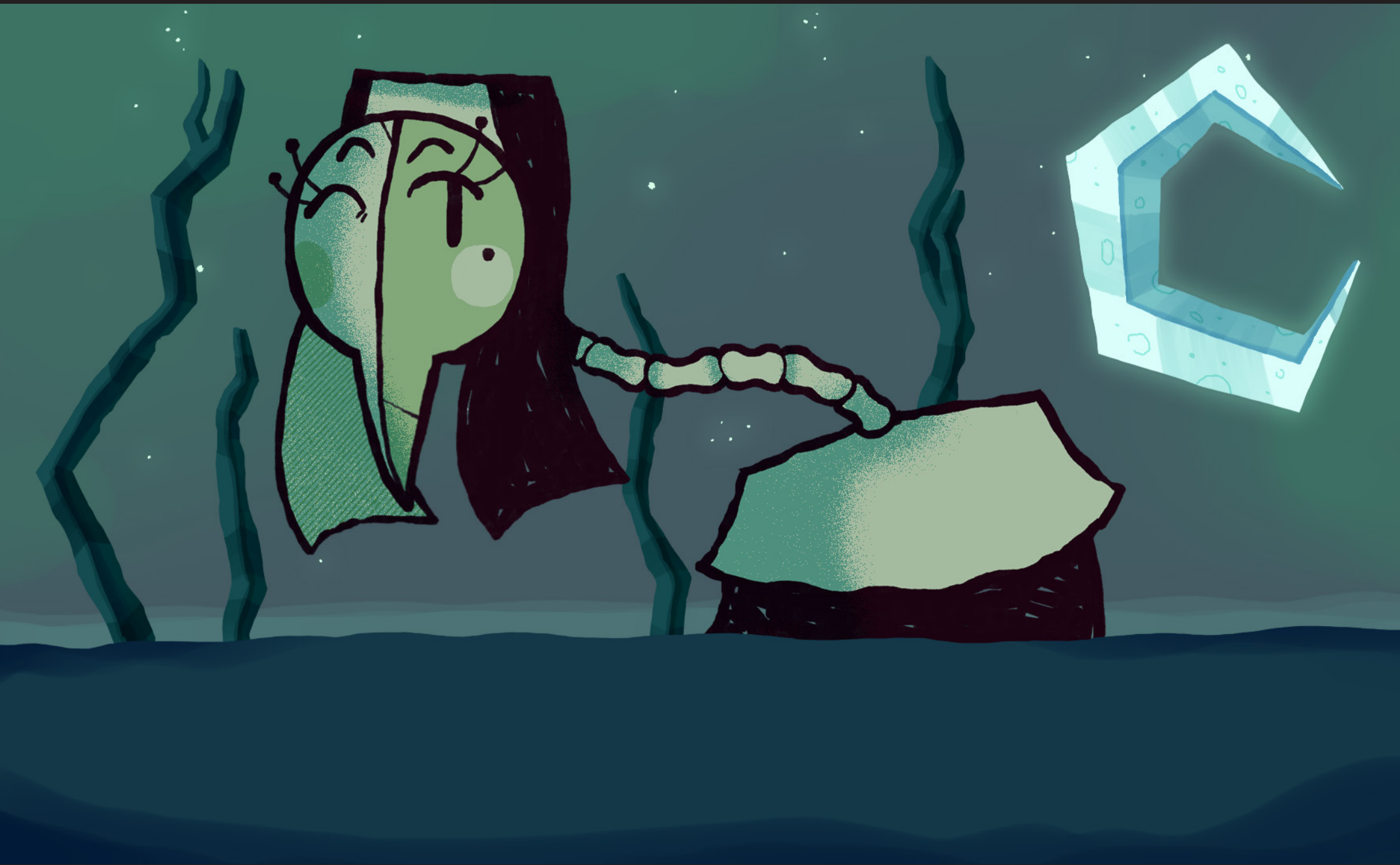


Yugo: Another chunk of inspiration came from Anthy Himemiya of Revolutionary Girl Utena, for his outfit's design/ colors, as well as the shape of his hair. King was also designed with flavors of RGU, as foil to Inspekta.

Finally, to add to how disgustingly cute he is, I asked our 3d animator Jack Cornish to "animate him like a plushie". GROSS!

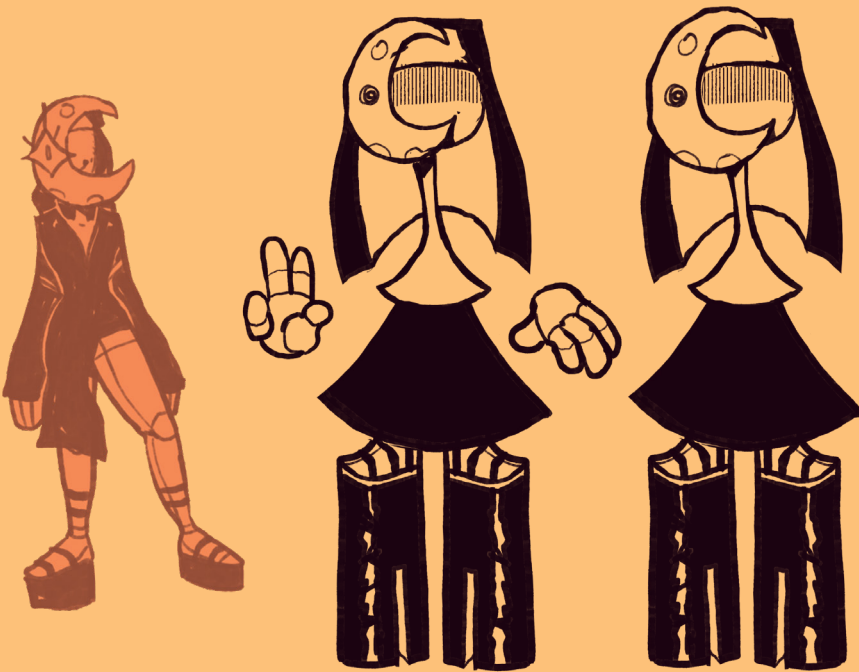


Inspekta

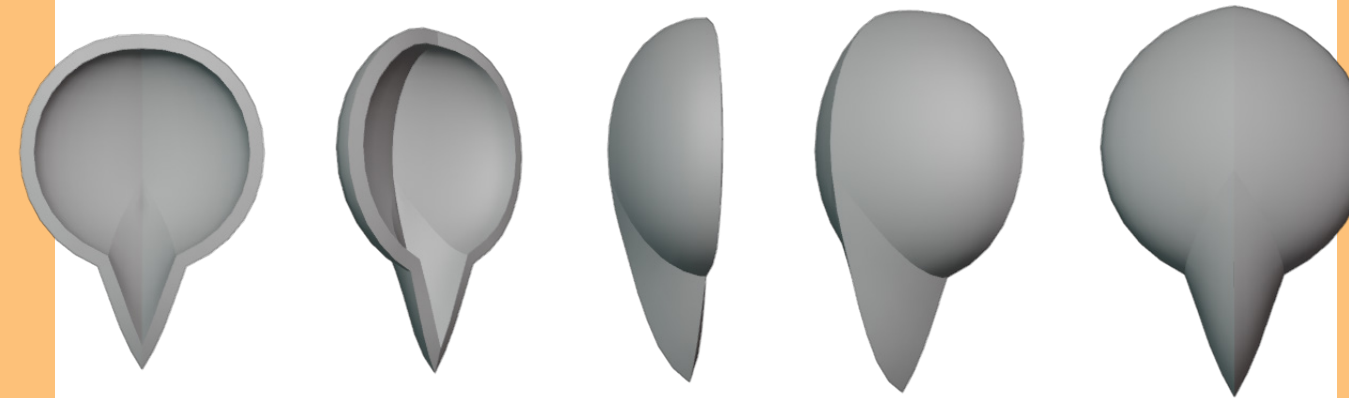




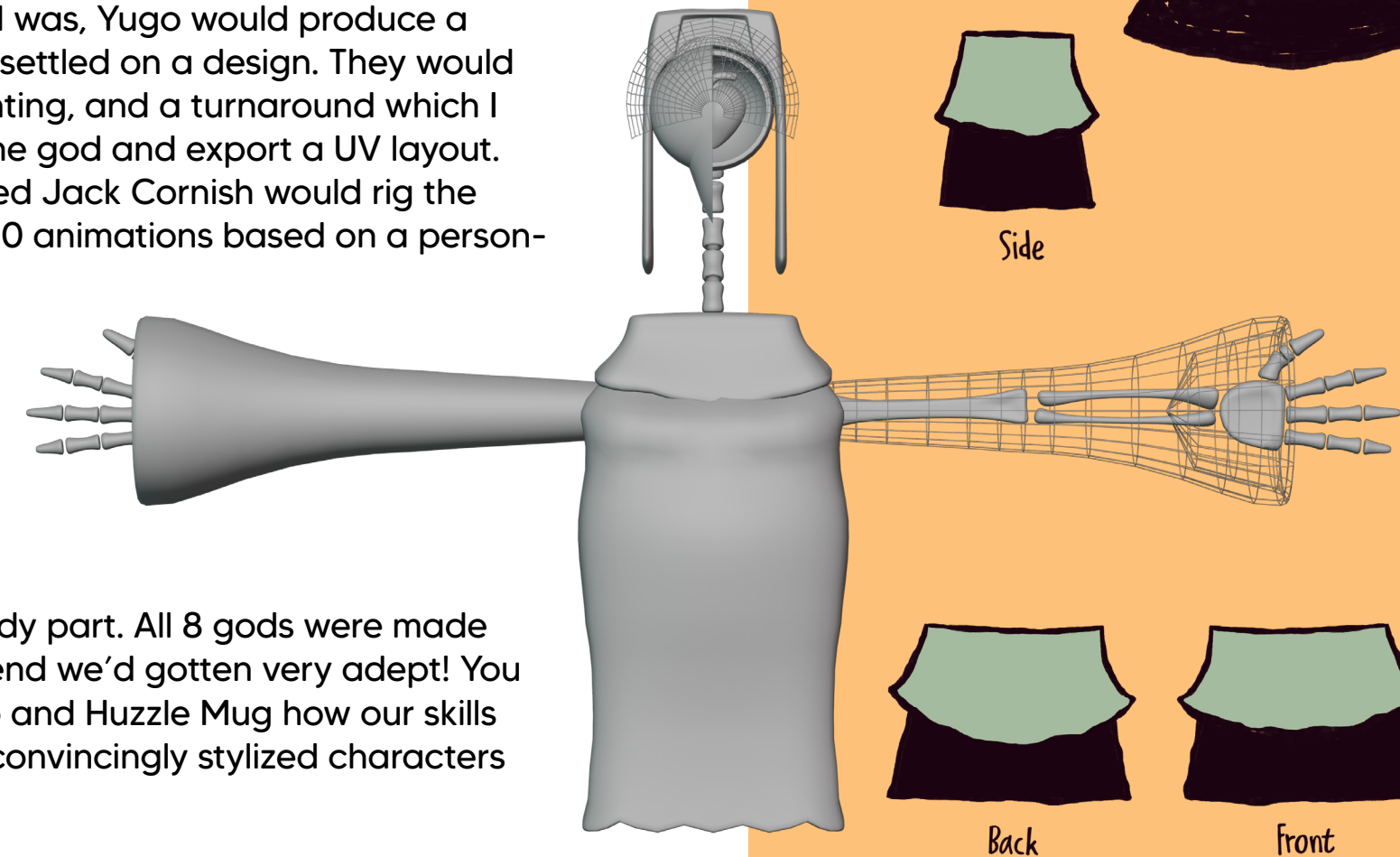
God room is a "sea of chairs". The further away they get, the closer the chairs get to one another. Big hands emerge from behind the chairs. Note: She should probably be a little smaller in the composition. The "stars" move around like fireflies.



Miss Mitternacht



Day: Gods in general were designed like this: once we knew who the god was, Yugo would produce a few sketches until we settled on a design. They would make a full-color painting, and a turnaround which I would use to model the god and export a UV layout. The immensely talented Jack Cornish would rig the model and make 10-20 animations based on a personality description and a preliminary list of ideas. Yugo would texture the exported UV layout and I would use the full-color painting as a reference to design materials for each body part. All 8 gods were made this way, and by the end we'd gotten very adept! You can see in Bauhauzzo and Huzzle Mug how our skills and ability to create convincingly stylized characters developed over time.

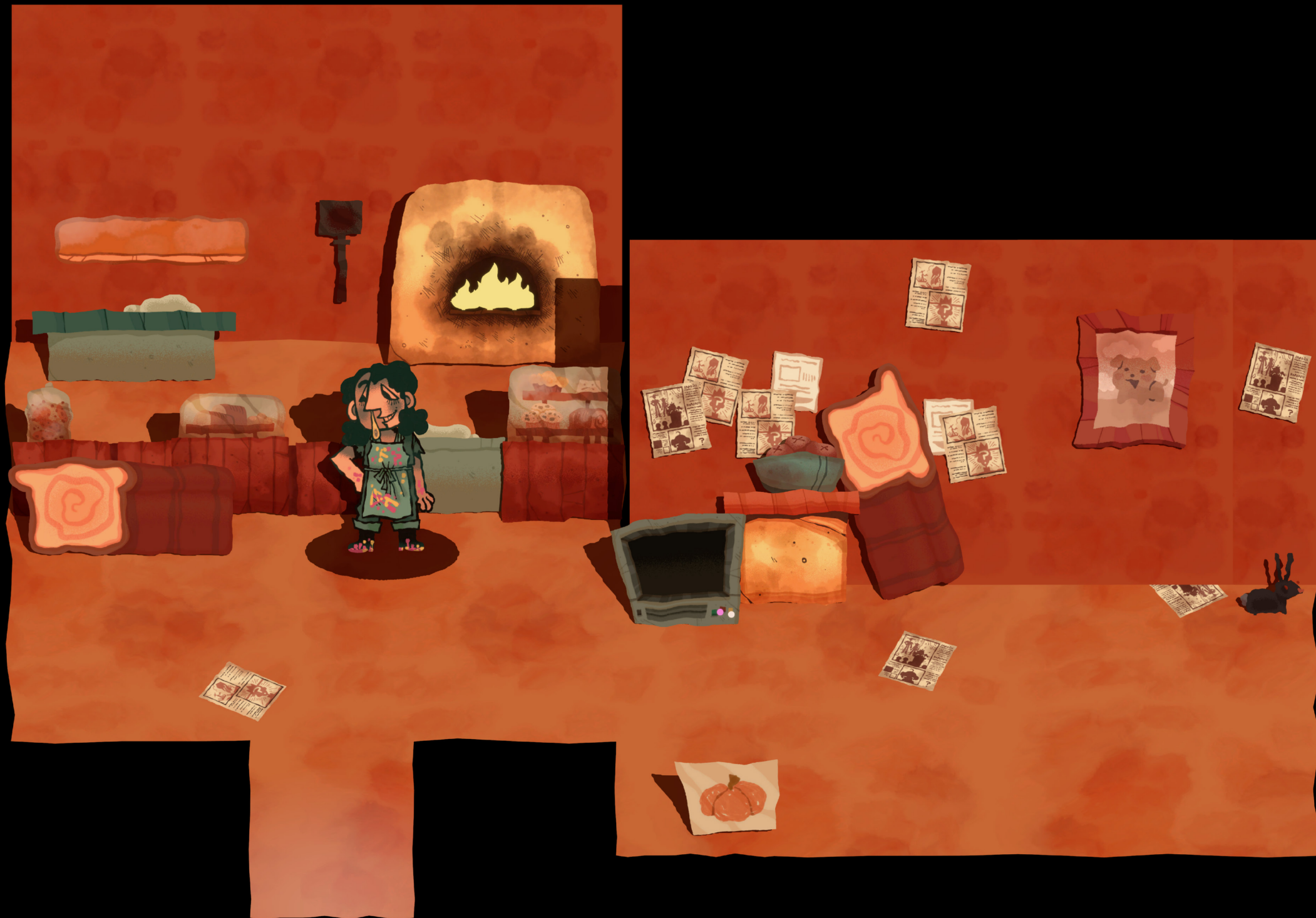


Miss Mitternacht



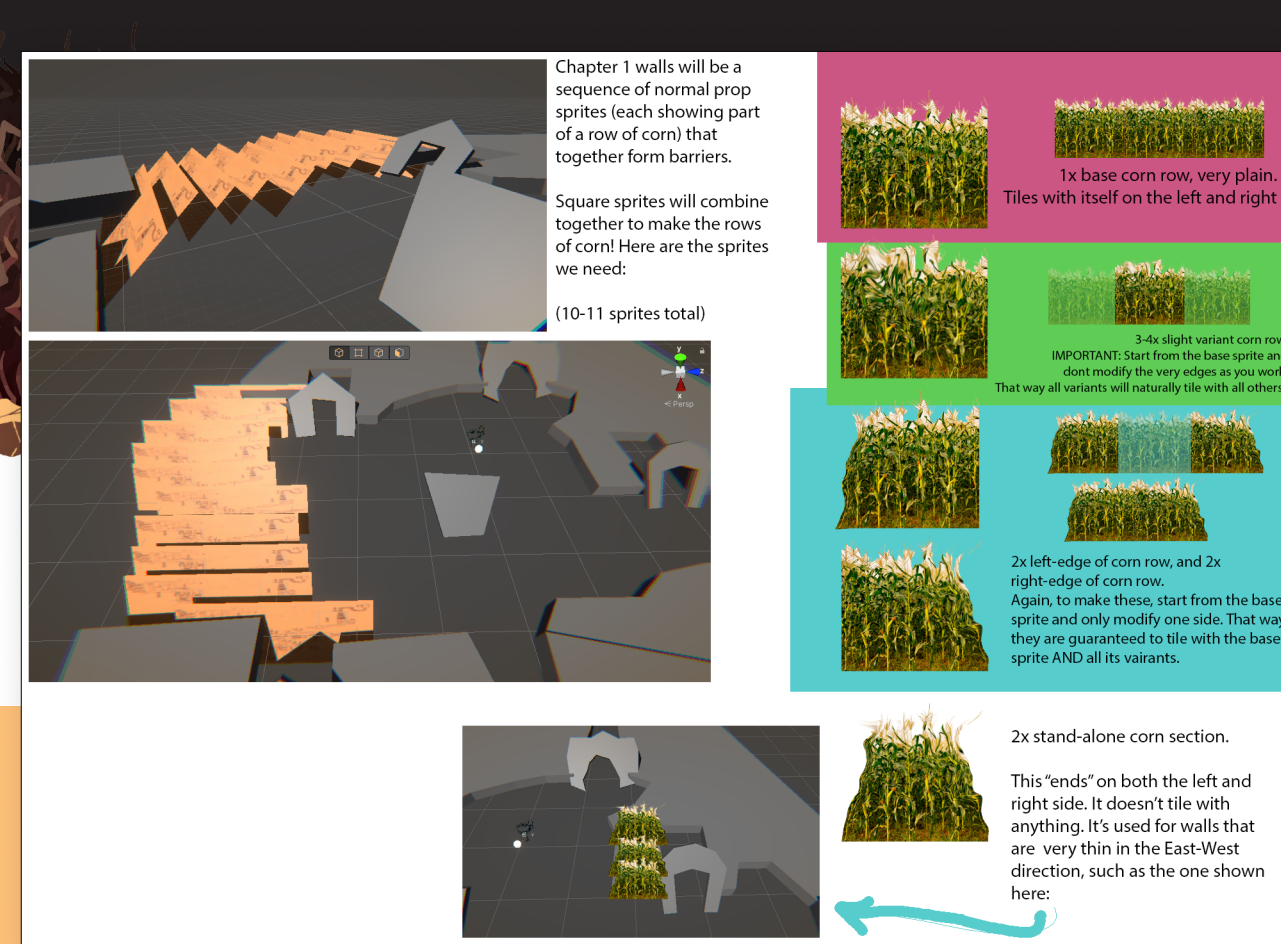
Yugo: Milldread, the town of perpetual sunset. You arrive- it's unbearably hot, the air is still, and not a single soul can stand the sight of one another. The crops are failing, the people are starving, and the only baker in town has a yeast allergy. A tricky god has offered a grisly solution- a blood sacrifice to the feared God of the Harvest, Milldread's patron deity. That can't be right, can it...?

Milldread is reminiscent of an old witch-hunt-era Colonial village. Farmland, farm animals, no electricity, and an air of impenetrable judgment. When concepting this area, I had Arthur Miller's *The Crucible* in mind- there's even a character named Goody!





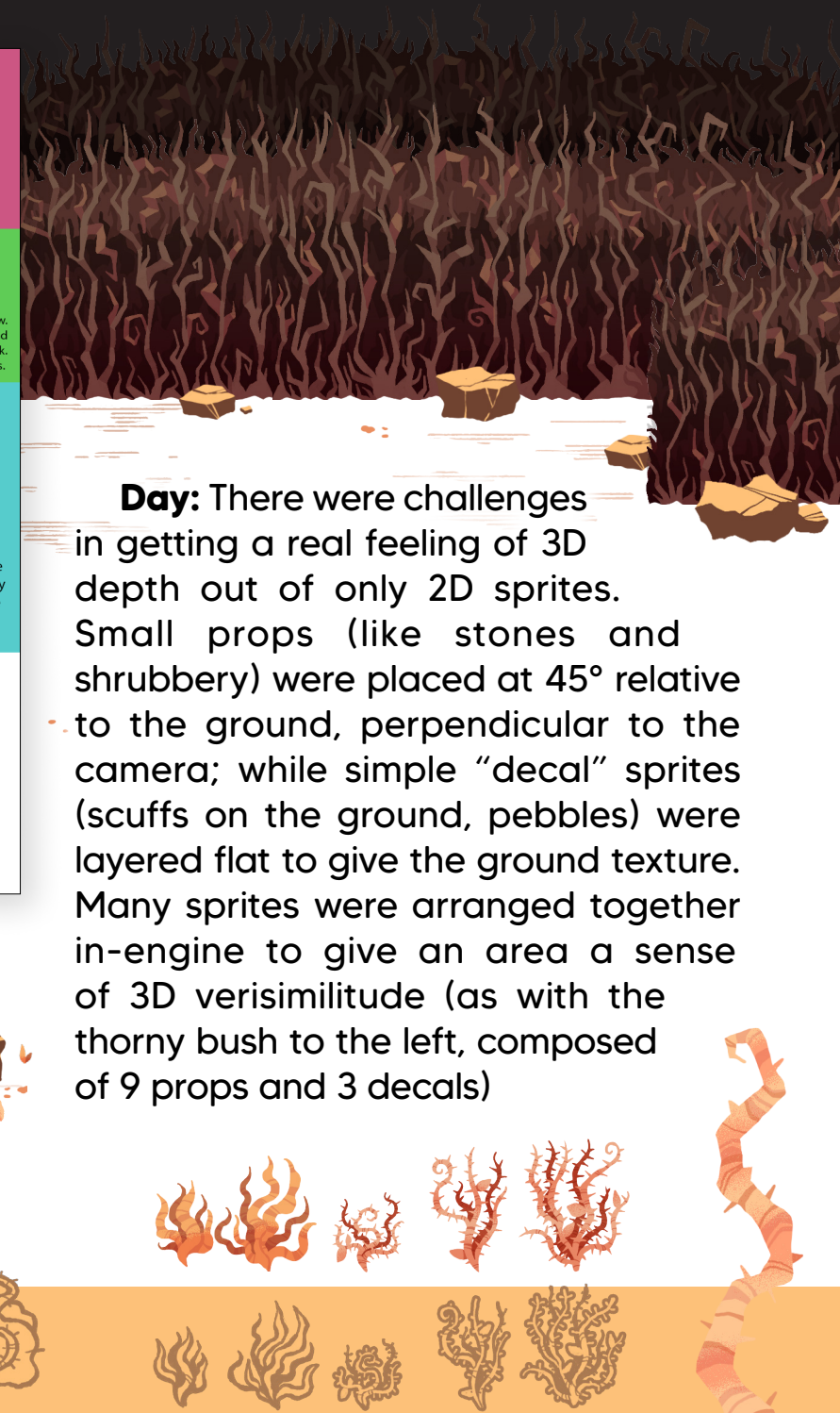
Mildread Scenery



above: Internal technical design document by Day explaining Milldread's cornfield "walls."



Mildread Scenery

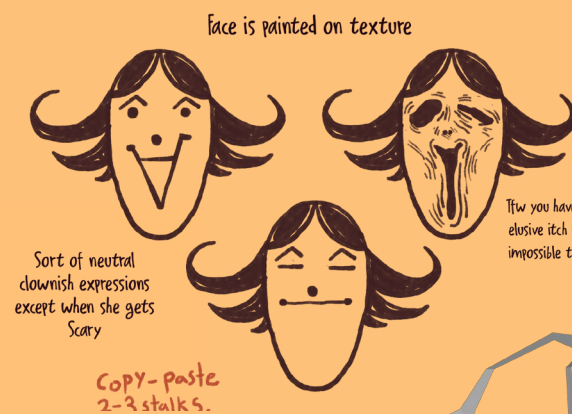
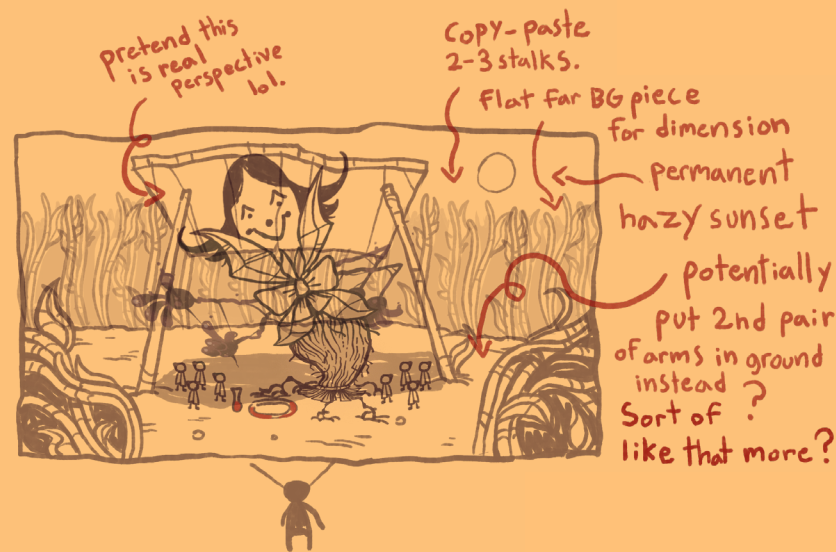
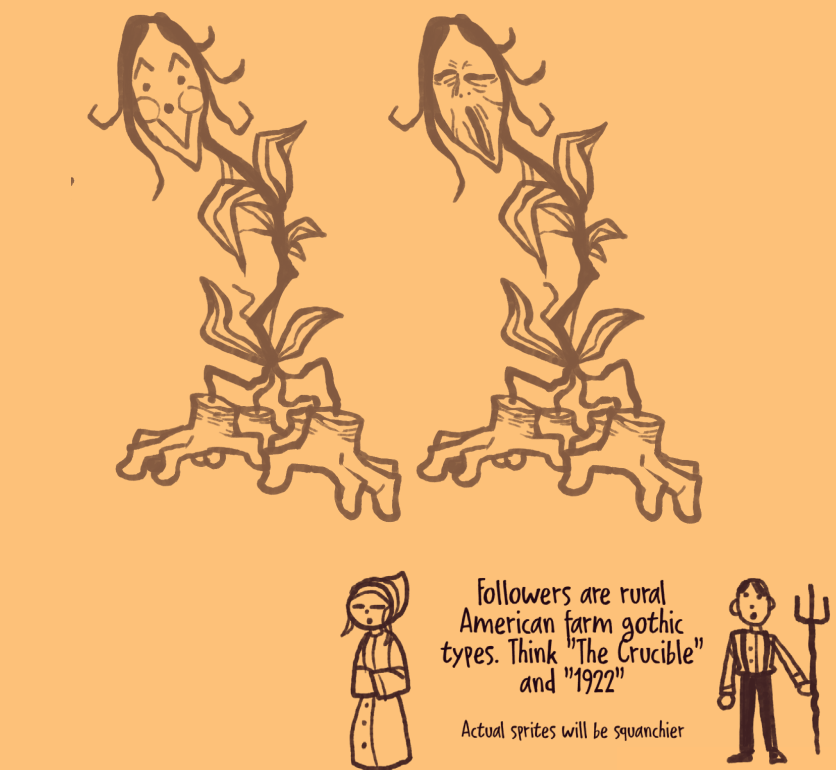


Day: There were challenges in getting a real feeling of 3D depth out of only 2D sprites. Small props (like stones and shrubbery) were placed at 45° relative to the ground, perpendicular to the camera; while simple "decal" sprites (scuffs on the ground, pebbles) were layered flat to give the ground texture. Many sprites were arranged together in-engine to give an area a sense of 3D verisimilitude (as with the thorny bush to the left, composed of 9 props and 3 decals)





Cobigail



Cobigail

Yugo: Cobigail's final design was inspired by a handmade corn husk doll I bought from an antique store when I was a kid. It wasn't mass-produced, just made by some unknown artist having fun.

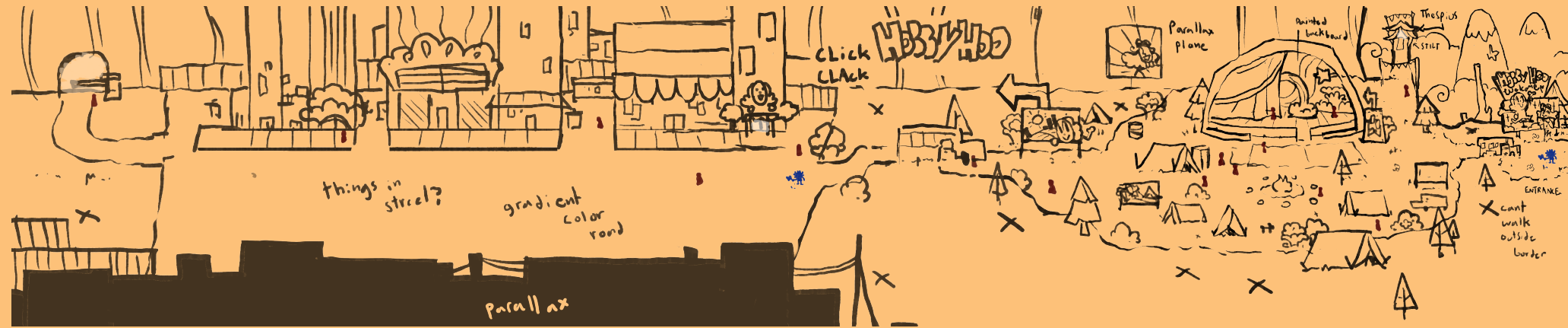
I no longer own the doll, but I was struck by how the doll was segmented with a big bow and leaves. I hope whoever has that doll now is enjoying her.



Yugo: Hobbyhoo- the hip happenin' place in The Grove, BURSTING with music, love, and joy- or not. A place once alive with inspiration has now been SAPPED DRY. "OH PARTNER MINE!", an episodic epic written by none other than Hobbyhoo's two patron gods has suddenly gone completely stale, so stale that nobody wants to create anything anymore. Just WHAT is at the root of this problem...? It's King again, isn't it? Yeah, it's King.

Hobbyhoo is inspired by, well, Hollywood- more specifically its media shift during the 1960s-70s. The area is split up into two halves: The Sunrise Strip- obviously analogous to the real Sunset Strip- and Hobbyhoo Hills- analogous to Laurel Canyon, the gathering ground for creatives of the hippie variety. During this era, as a result of the stuffy traditional culture of the 50s bleeding into ever-rising anti-war sentiment from the Vietnam War, creatives felt emboldened to 'stick it to the man'. This in turn manifested as defying norms in film, music, visual art, fashion, and gender roles. People started to care less about what was palatable and marketable to the public, and more what THEY truly wanted to say and just what was enjoyable to them... But of course, corporate overhead, stuck in tradition, pushed back and many truly inspired (and Hollywood funded) projects came out stripped of their personality and heart. This didn't stop the underground scene of course, which FLOURISHED through word-of-mouth without corporate meddling. You can see how a lot of this real-world conflict inspired and manifested into this chapter!

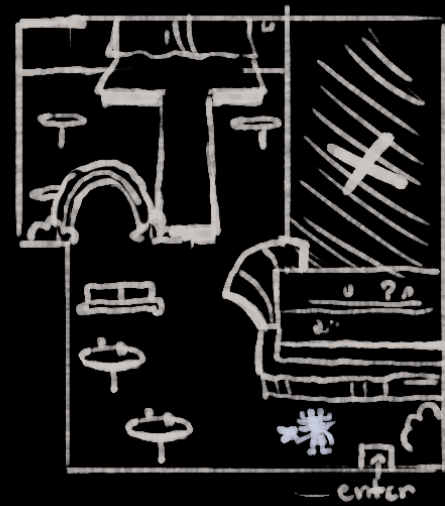
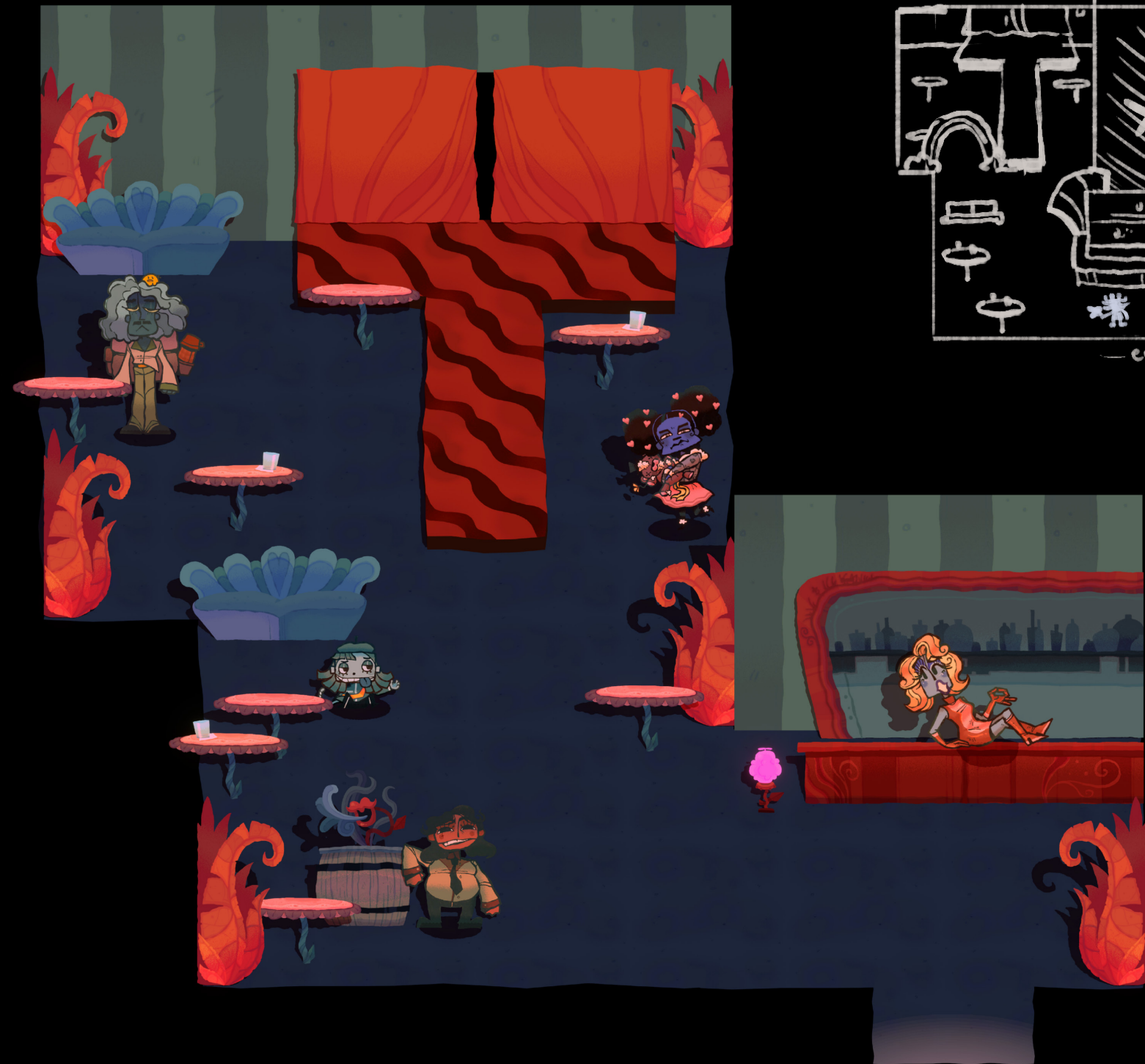
opposite: Final layout sketch for HobbyHoo, and corresponding game screenshot
below: various in-progress layout sketches

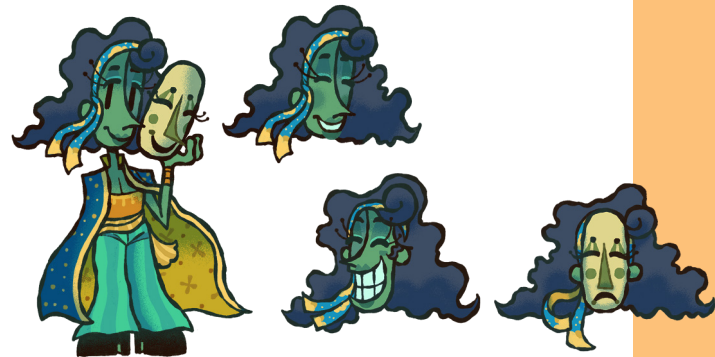


HobbyHoo

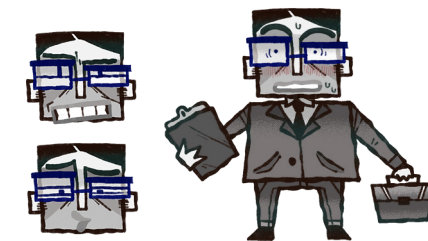
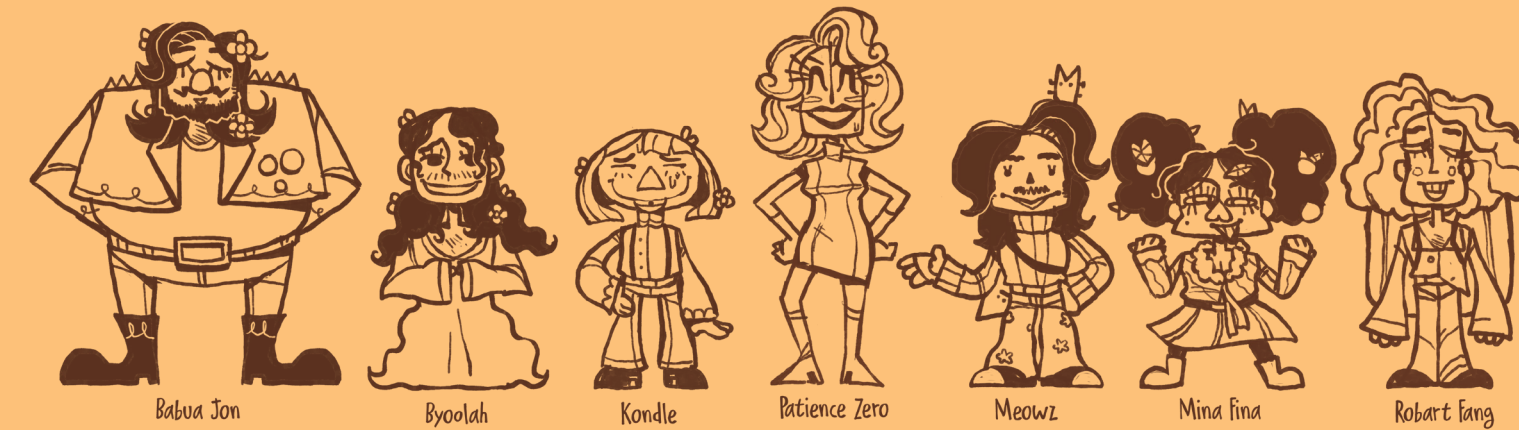
Day: Most of the design iterations in HobbyHoo were concerned with horizontal compression, making the area feel large and varied without losing walkability. Changing music and scenery as the player moves between areas ultimately helped make the two halves of HobbyHoo feel distinct.







Yugo: One visual inspiration was the design collective The Fool, started by Marijke Koger in the late 1960s. Their murals remain in Los Angeles and London to this day. Many Hobbyhoo residents sport garb inspired by The Fools' handcrafted-fashion, most notably Styella, Byella, and Feldley, the stars of "OH PARTNER MINE!"



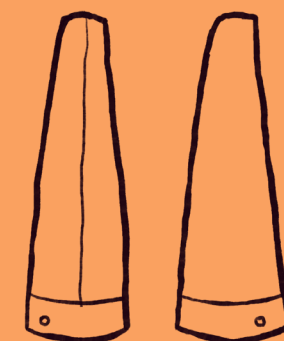




Yugo: Thespius Green, visually, is very inspired by 1960s musician & archivist Tiny Tim- from the hair to the suit. Traditionally, Tiny Tim wore tweed 'gauche' suits in all performances and media appearances. Nothing about this man was traditional, from his fashion, to his bizarre falsetto musical stylings. TV hosts and media reviewers alike paraded him as a laughing stock, behind his back and to his face- but he didn't care, he just wanted to have fun making his music, and loved being the anomaly that he was.



Side Front

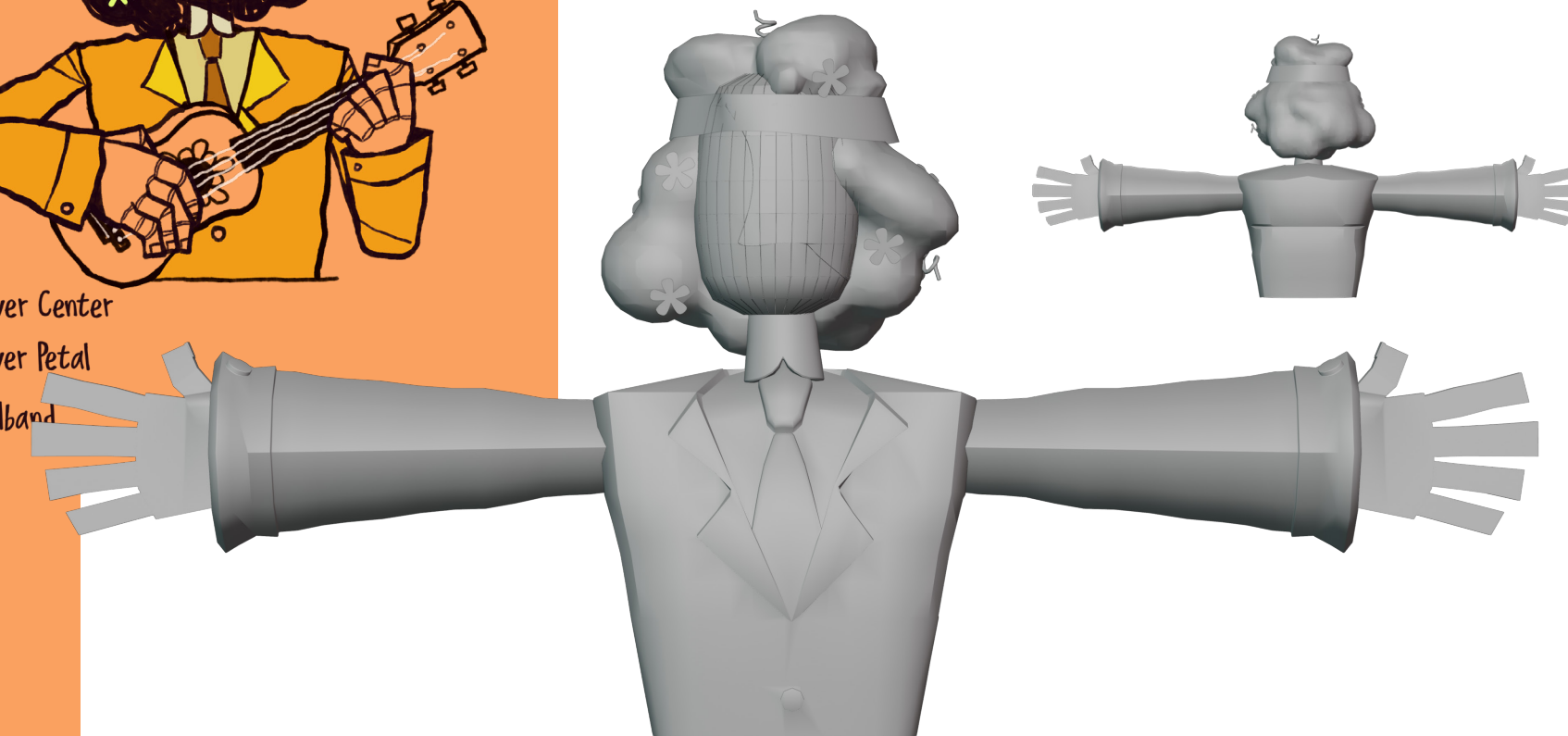


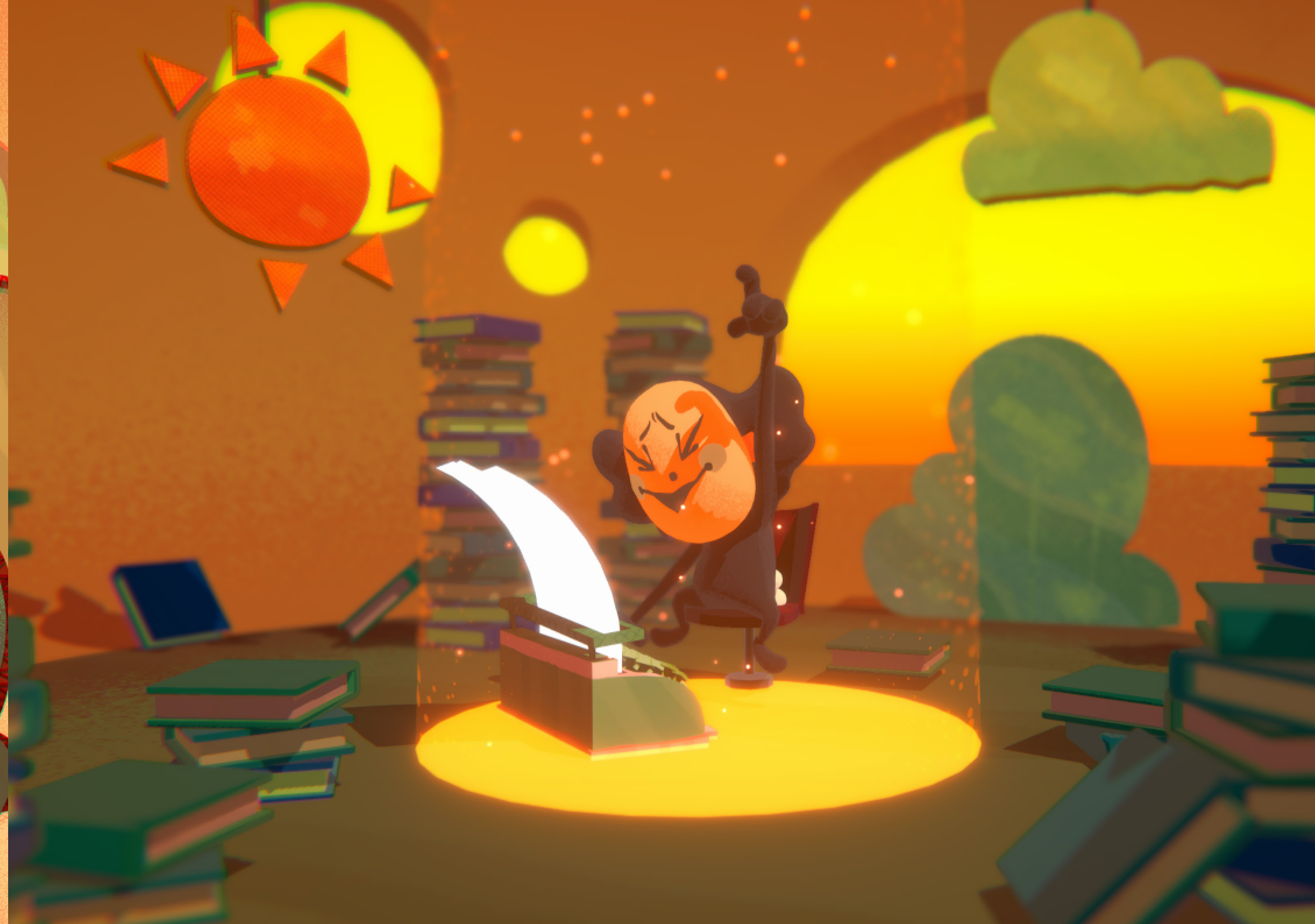
- Suit
- Suit Collar
- Shirt
- Shirt Collar
- Tie
- Flower Center
- Flower Petal
- Headband



Day: Thespius was the first god designed, before any of the game's story was in place. His design served as a test of what was possible to create in our design pipeline.

Thespius's floating background hands were originally going to use sign language to spell out words relevant to his dialogue. Ultimately, though, it was out of scope.

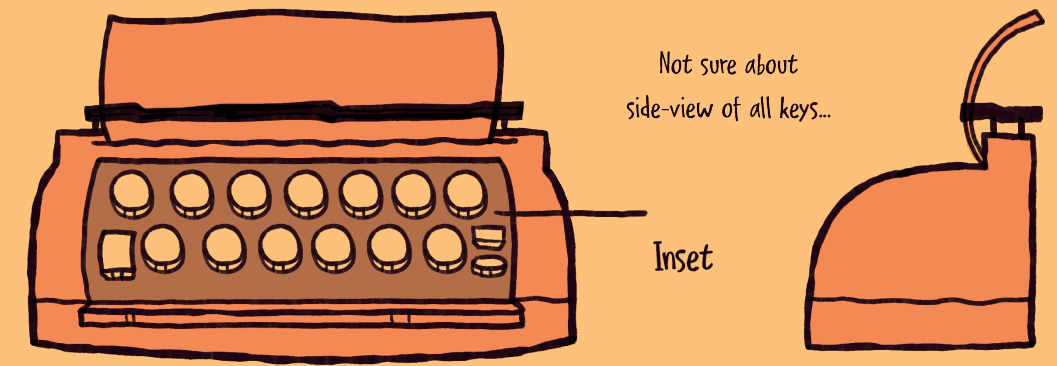




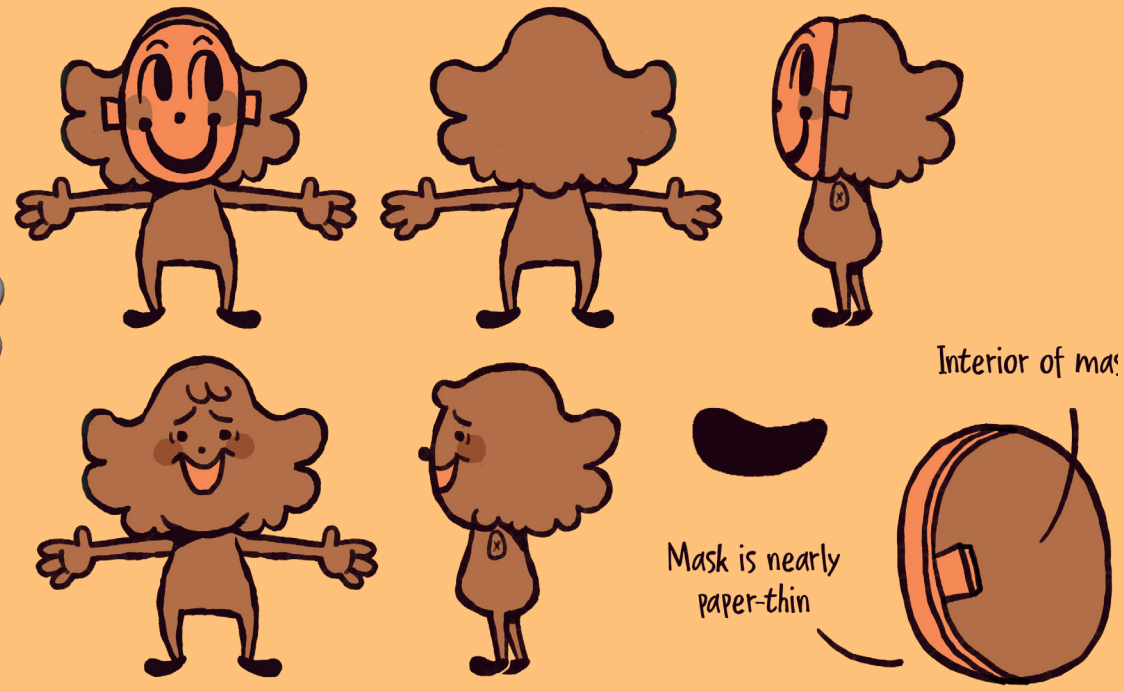
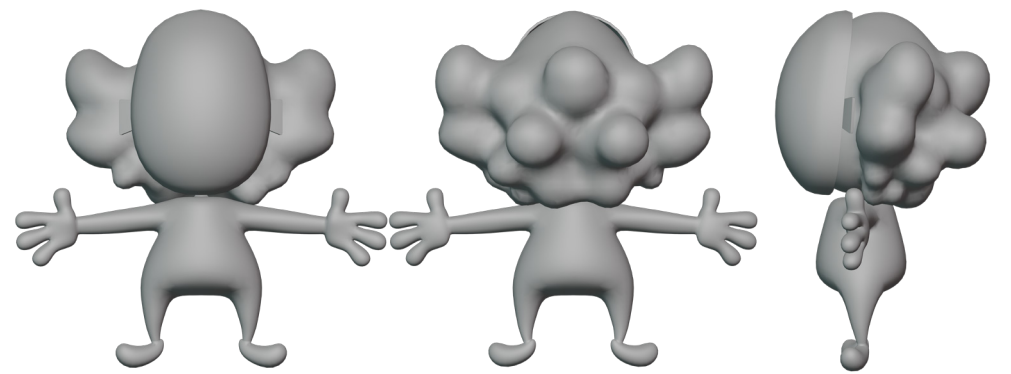
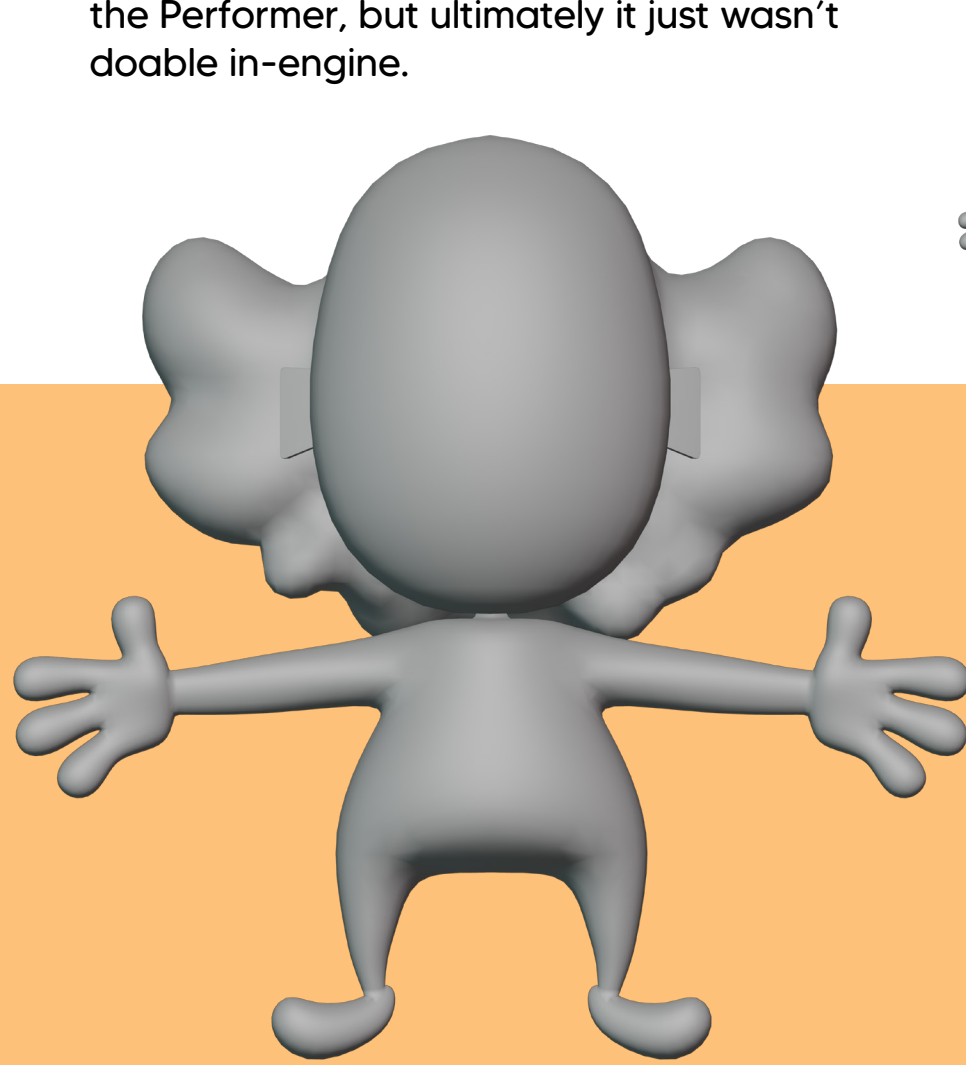
below: Click Clack color palette concepts by Val Eerie



"Georgia" The Typewriter



Yugo: For those who Know, it's pretty obvious that Click Clack is inspired by none other than Jeremy Hillary Boob Ph.D from 1968's Yellow Submarine. He too, is a peculiar little storyteller with a bizarre mask and tiny typewriter. My original vision with Click Clack was that every time he changed expression, his mask would fall off, revealing another mask underneath with a different expression. The idea for this came from the character Kedamono of Popee the Performer, but ultimately it just wasn't doable in-engine.



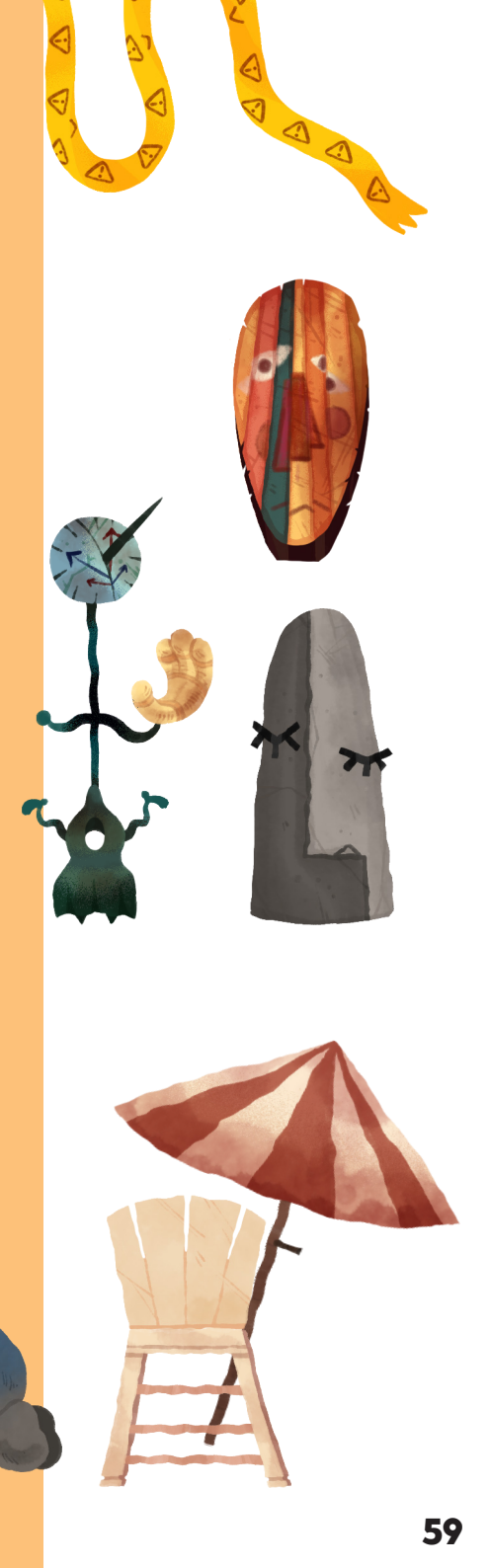
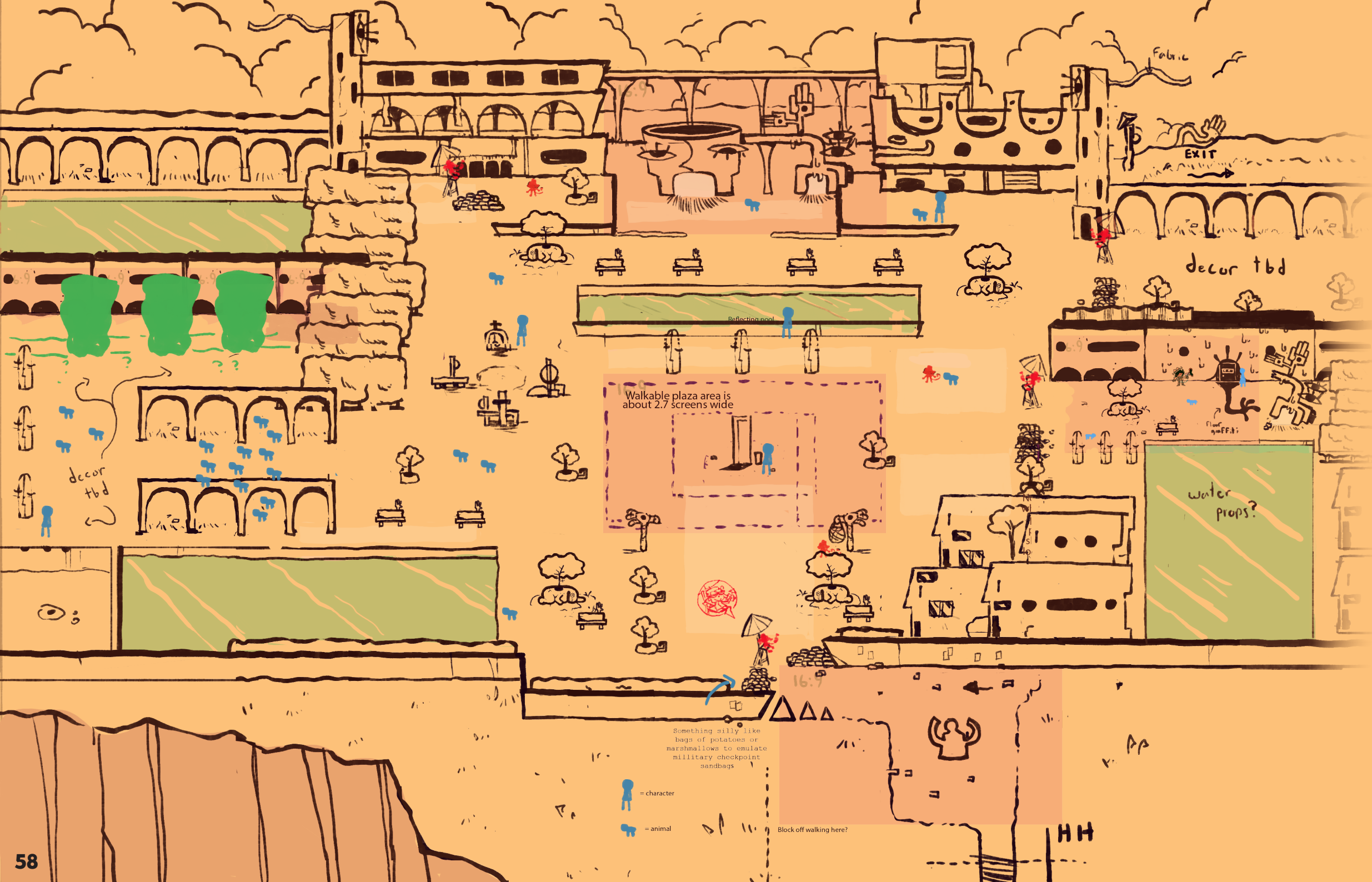


Day: BuzzHuzz was imagined as an early-20th century Italian style plaza- Piazza Navona or the like. The chapter needed a backdrop of a historically innovative city (fitting of Huzzle Mug, god of invention) still rooted enough in tradition that its creative spirit is susceptible to being crushed by conservative fundamentalism. Chapter 4 of Great God Grove is meant to evoke the rise of fascism in Italy ahead of the second world war- and how art and free expression in particular acted as ideological scapegoats for the NFP and NSDAP.

Great God Grove imagines the fascist suppression of free expression as a war that can be won.

Yugo: The stoic, fresh stylings of German-born Bauhaus architecture and the surreal dreamscapes of Yume Nikki helped craft the look of Buzzhuzz. Smooth, blocky buildings imbued with surreal imaginative abstractions represent what Buzzhuzz is all about- the unity between innovation and tradition, how a healthy future cannot exist without the two working in harmony.

Both Bauhaus stylings and surrealism were labeled as “degenerate art”.







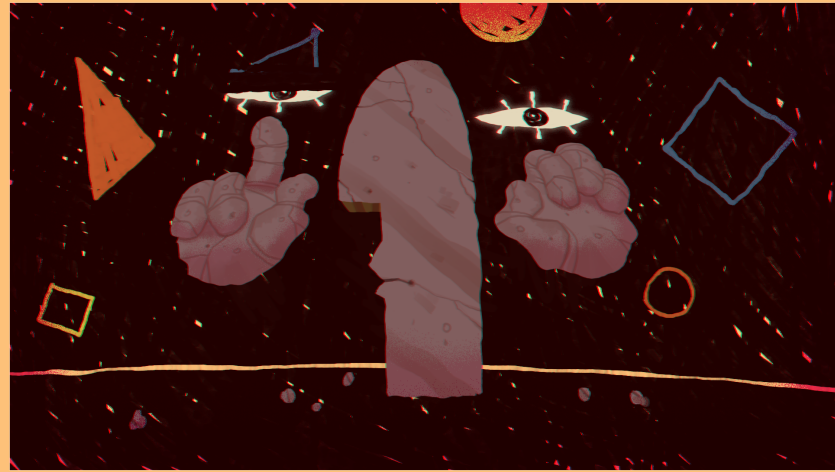
Yugo: There are only three new characters in the Buzzhuzz chapter- the rest returning from earlier in the game. One of the “new” characters, Dr. Rostro Cara, originally appeared in our 2020 Ludum Dare entry FACE LOVE! as “Face Tech”. If you listen to Dr. Cara closely you just might be able to piece together what happened to him between games...



Day: The beret is stereotypically the garb of 19th century painters (via the “bohemian” starving artists of Paris), 19th century European army infantry, and 20th century countercultural rebels (like Che Guevara during the Cuban Revolution). The triple meaning of the beret and the guerrilla artist / guerilla warfare pun were the earliest ideas for a narrative throughline in BuzzHuzz.



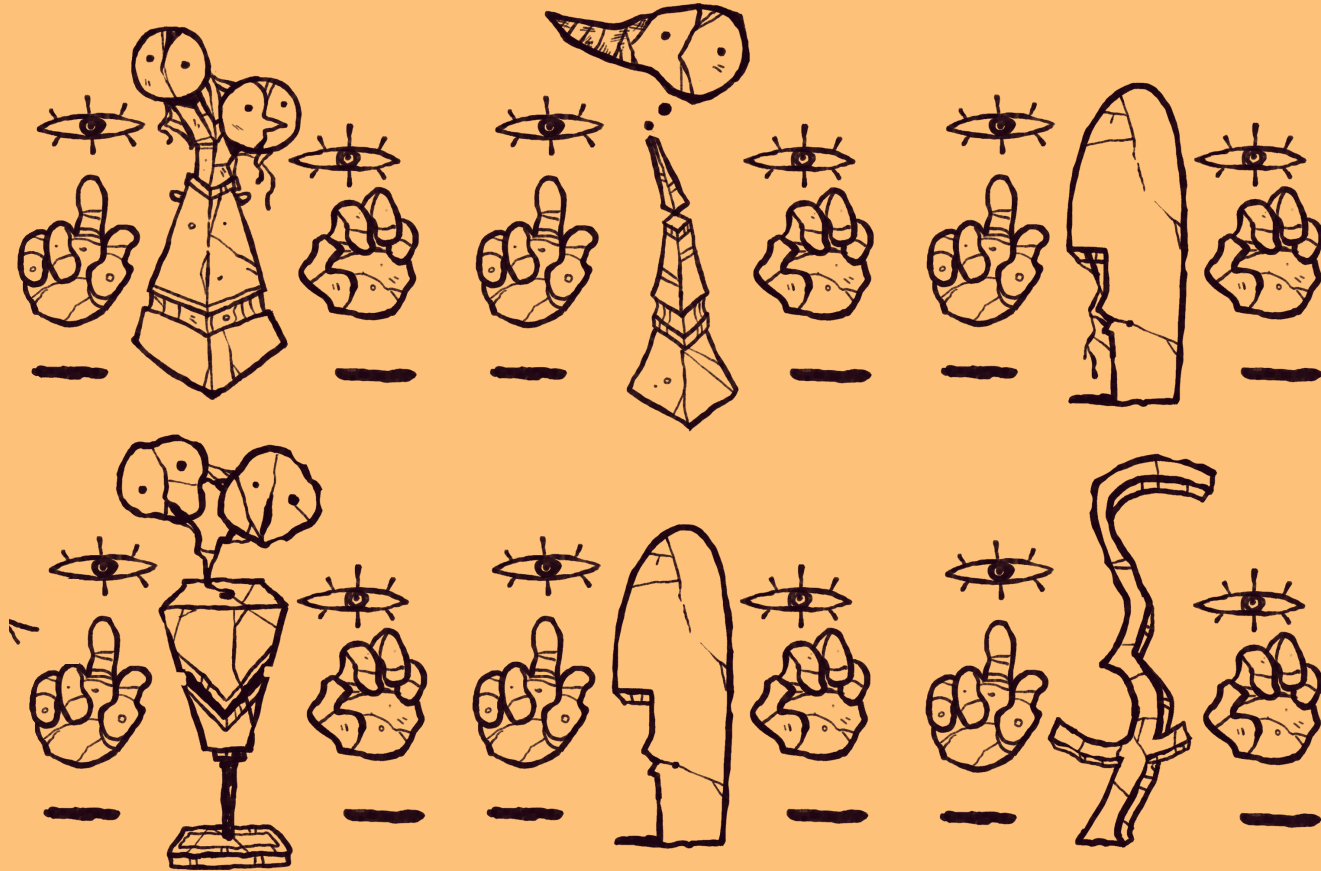




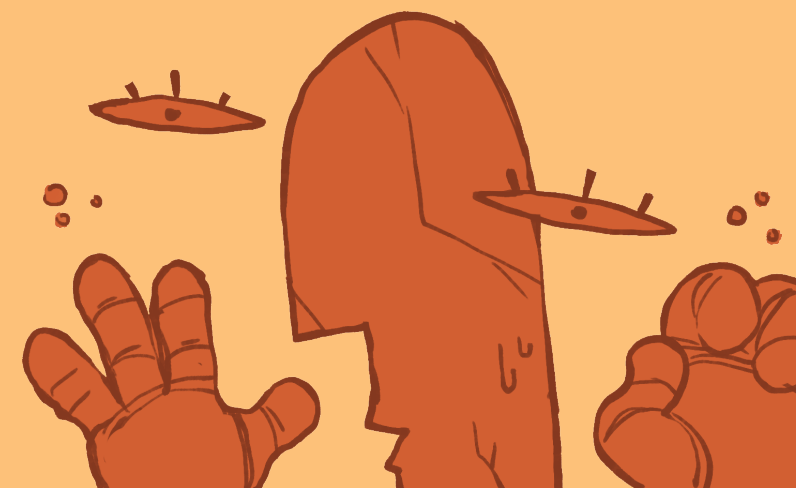
Doodle shapes float and boil above the ground line.

Scribble background boils slowly, on 8s or 10s.

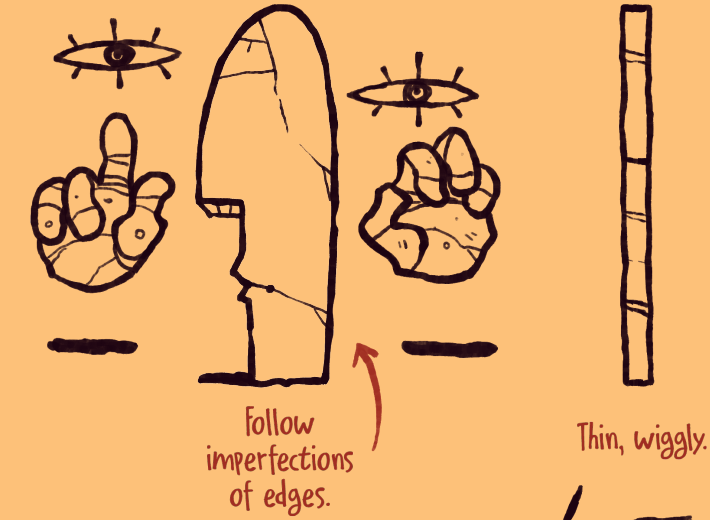
Exaggerate perspective- Bauhauzzo is HUGE!



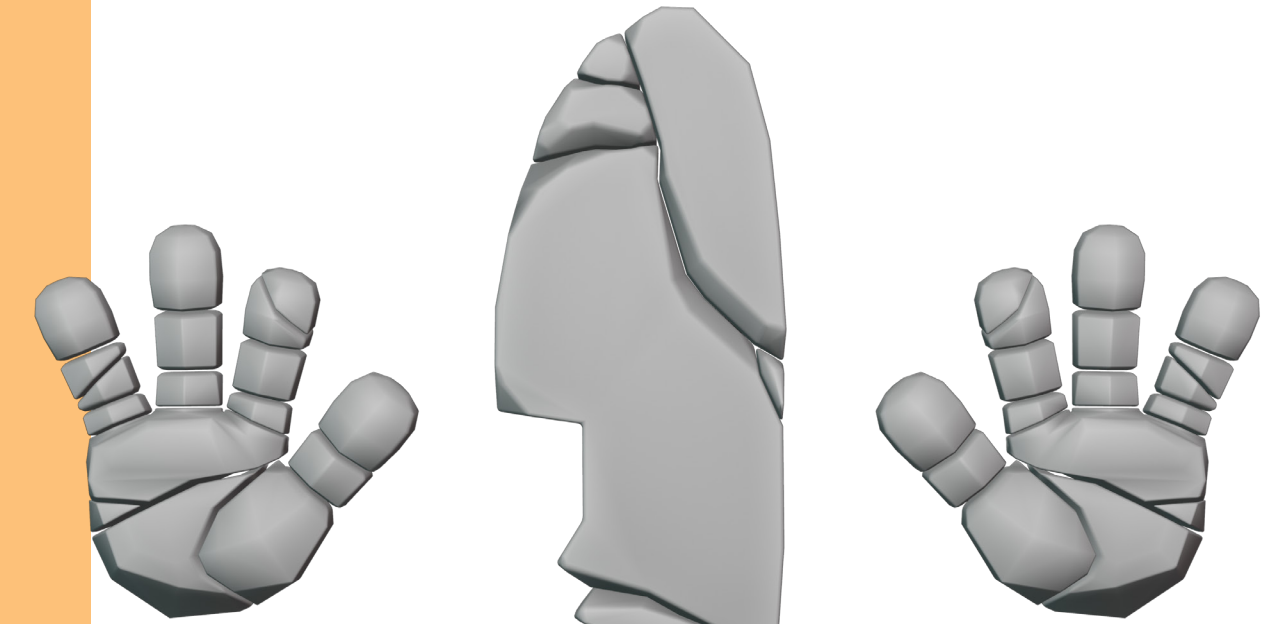
Bauhauzzo



Bauhauzzo



Bauhauzzo sneezes gross black stringy stuff.



Yugo:

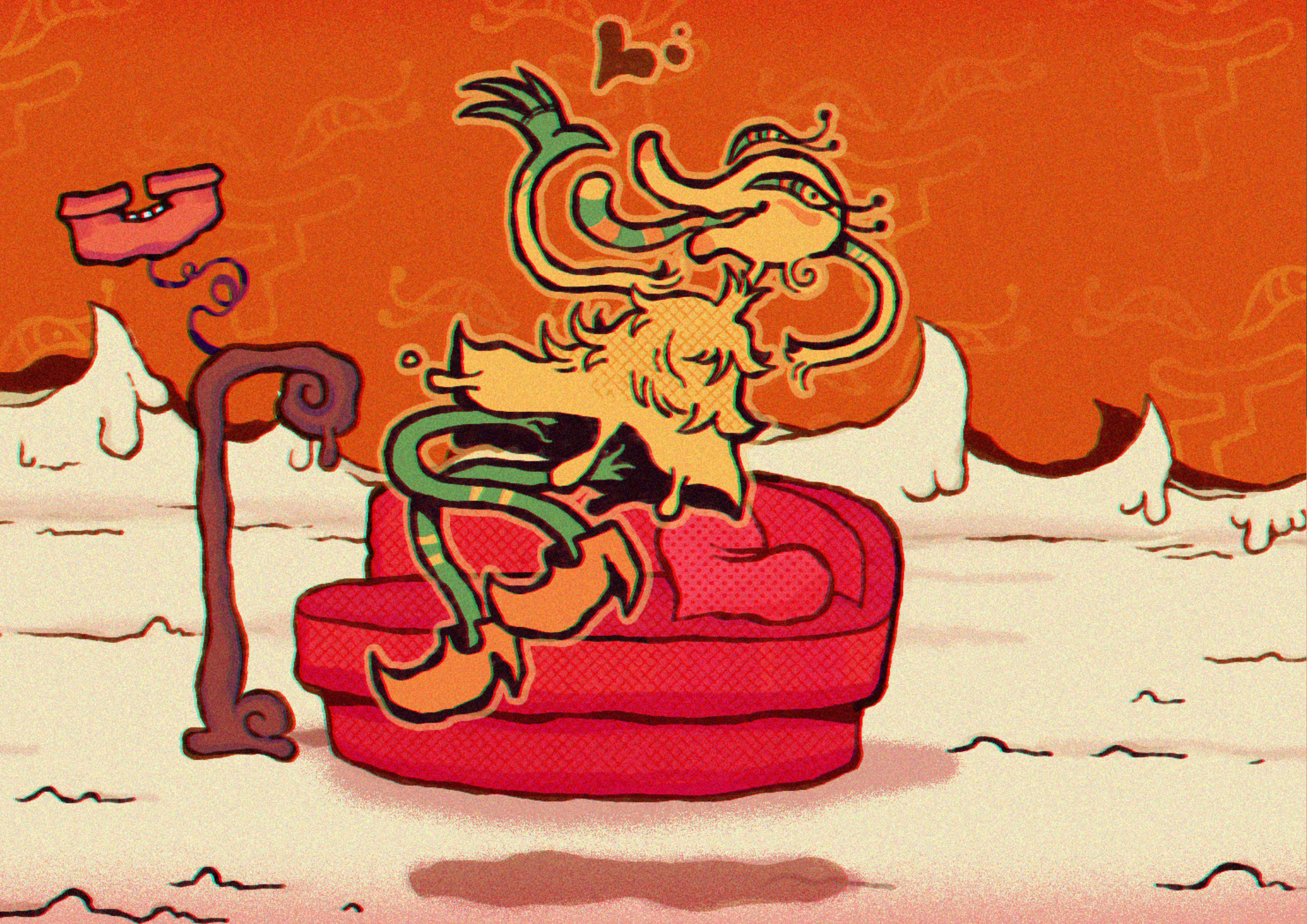
Bauhauzzo's design comes from the face represented in the Bauhaus design movement's logo.

Despite Bauhaus design's "clean" and streamlined appearance, it too was considered "degenerate art." The German school Bauhaus style evolved from was shut down in the 1930s, referred to by the Nazis "as a center of communist intellectualism."



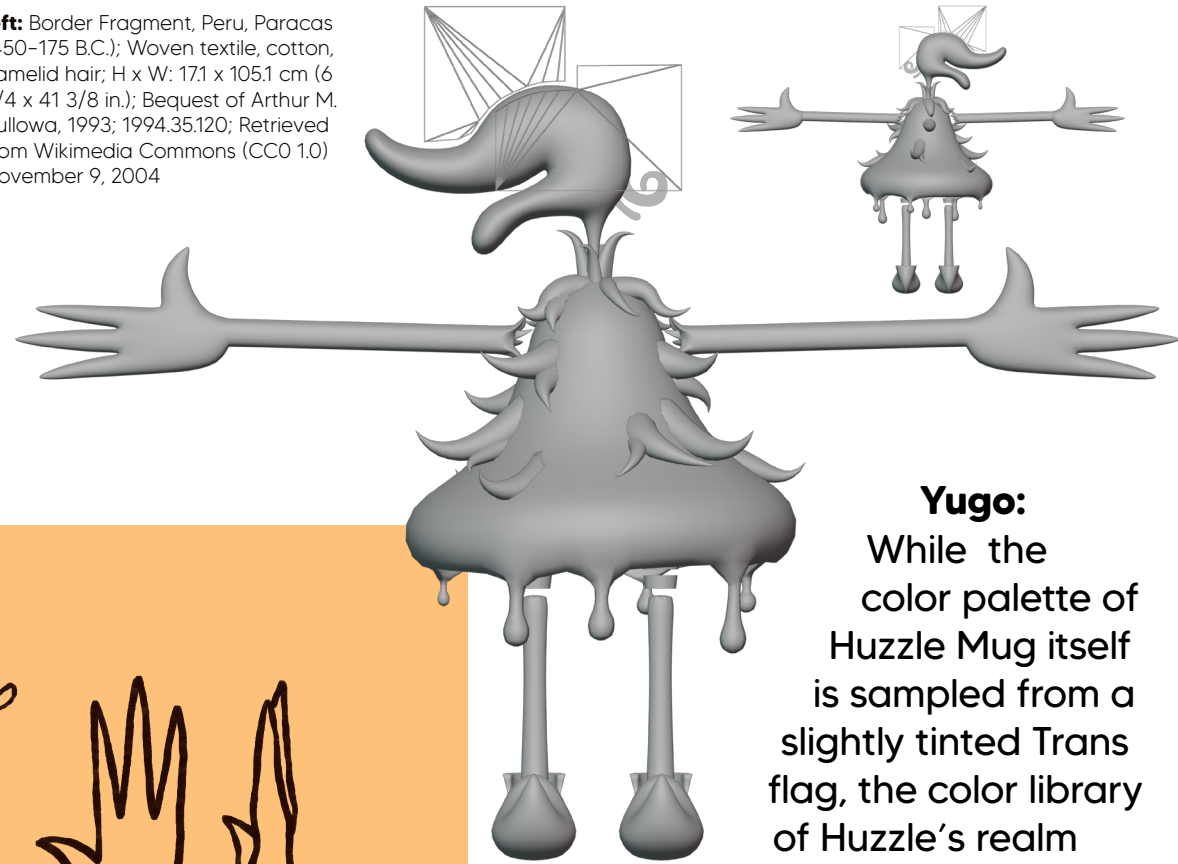
above: Dörte Helm (1923); "Bauhaus Exhibition Postcard No. 14"; Color offset lithograph; H x W: 15.2 x 10.5 cm (6 x 4 1/8 in.); Retrieved from Wikimedia Commons (CC0 1.0) November 9, 2004

Bauhauzzo



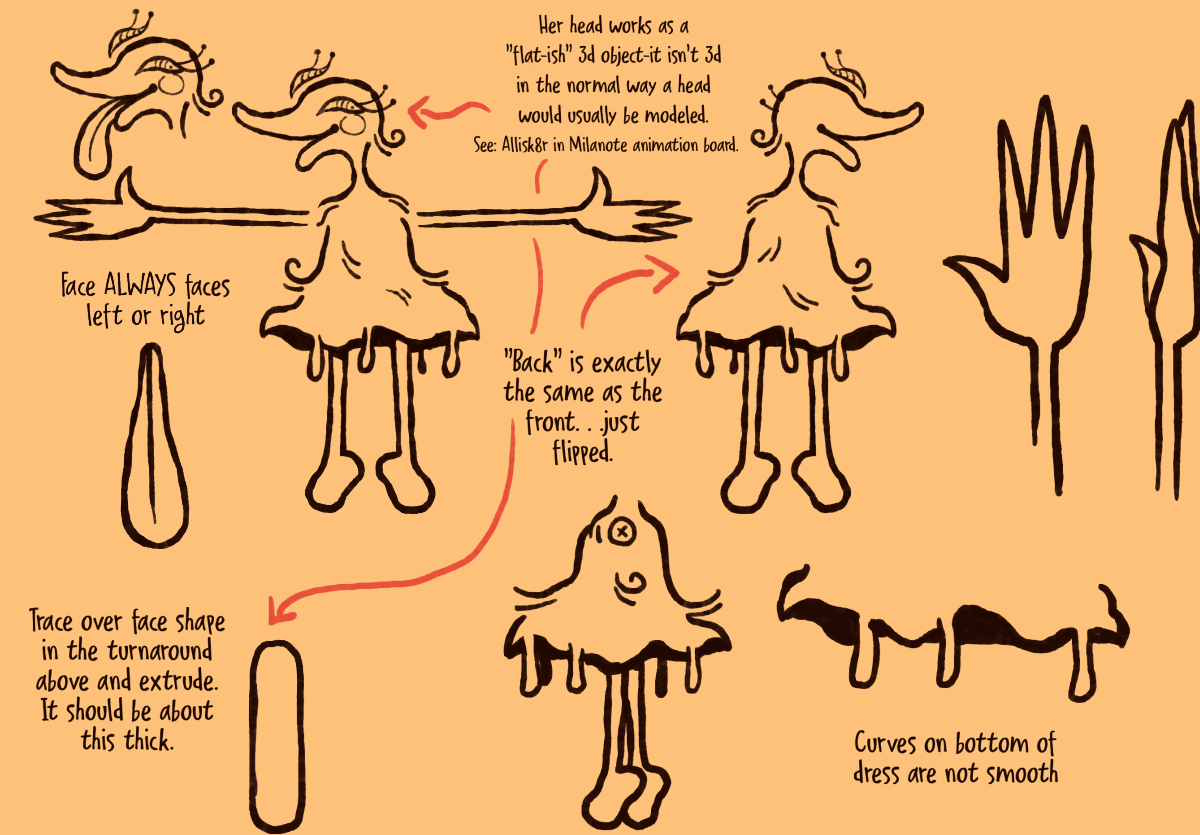


left: Border Fragment, Peru, Paracas (450-175 B.C.); Woven textile, cotton, camelid hair; H x W: 171 x 105.1 cm (6 3/4 x 41 3/8 in.); Bequest of Arthur M. Bullowa, 1993; 1994.35.120; Retrieved from Wikimedia Commons (CC0 1.0) November 9, 2004



Yugo:

While the color palette of Huzzle Mug itself is sampled from a slightly tinted Trans flag, the color library of Huzzle's realm is was created by color picking ancient Paracas and Nasca textiles. Yume Nikki, which frequently references ancient Peruvian textiles, was a big inspiration for the surrealism/Huzzle aspects of Buzzhuzz.



Her head works as a "flat-ish" 3d object-it isn't 3d in the normal way a head would usually be modeled. See: Allisk&r in Milanote animation board.

Face ALWAYS faces left or right

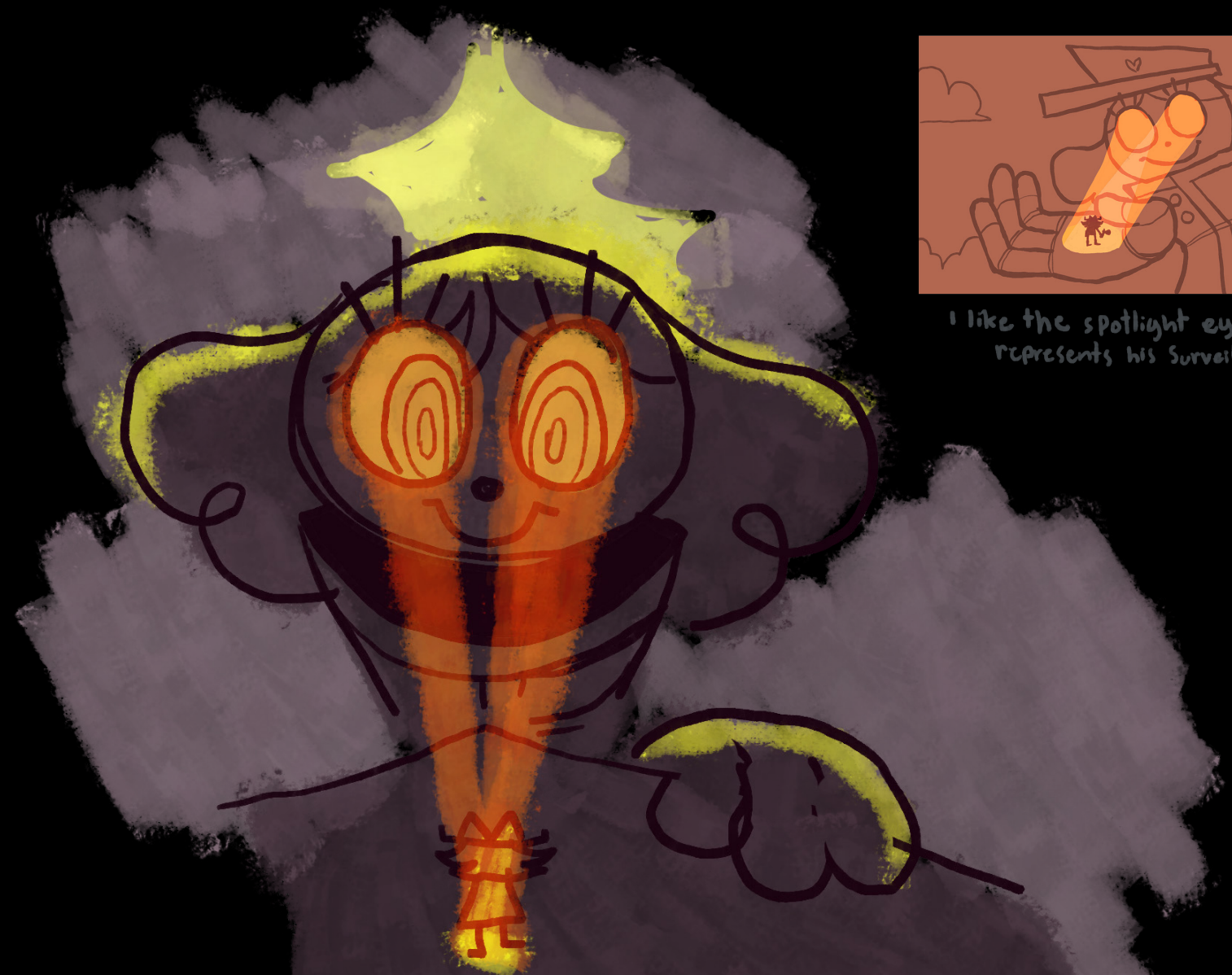
"Back" is exactly the same as the front. . just flipped.

Trace over face shape in the turnaround above and extrude. It should be about this thick.

Curves on bottom of dress are not smooth



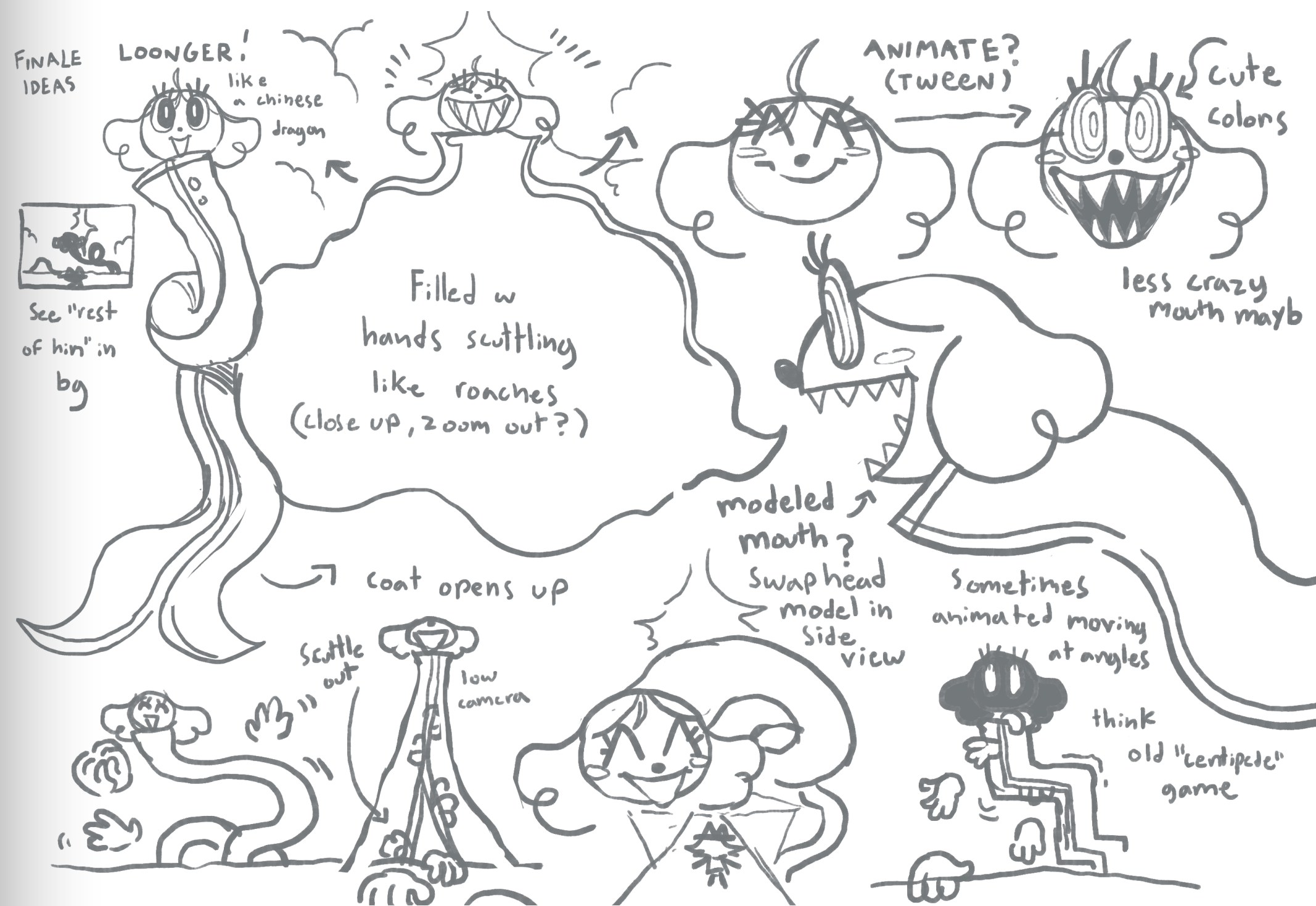
Day: The Spire was the most involved part of the game to create- both technically and narratively. Weaving together all of the game's themes, all major characters, and both gameplay perspectives, it took over half a year to complete.



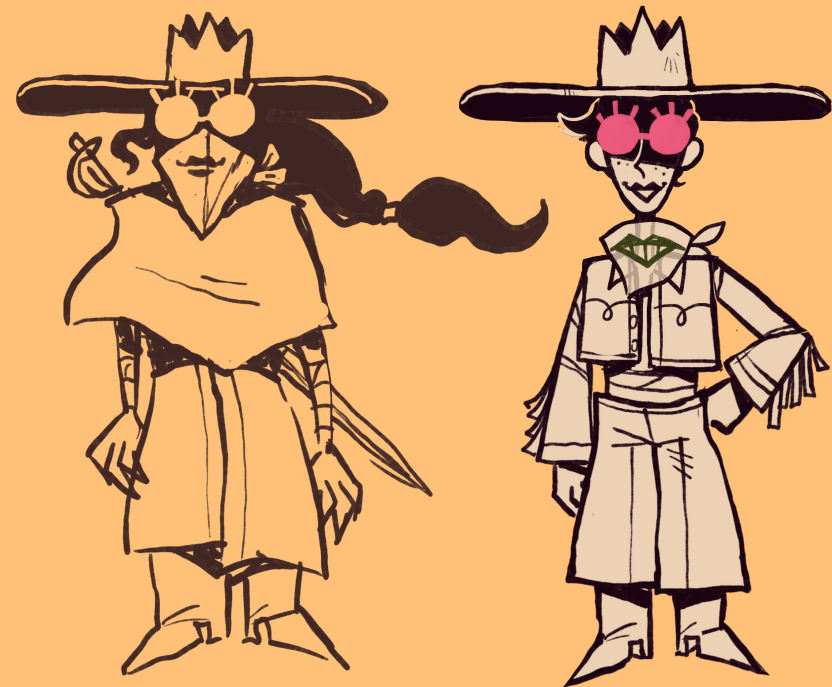
Finale



I like the spotlight eyes.
represents his surveillance

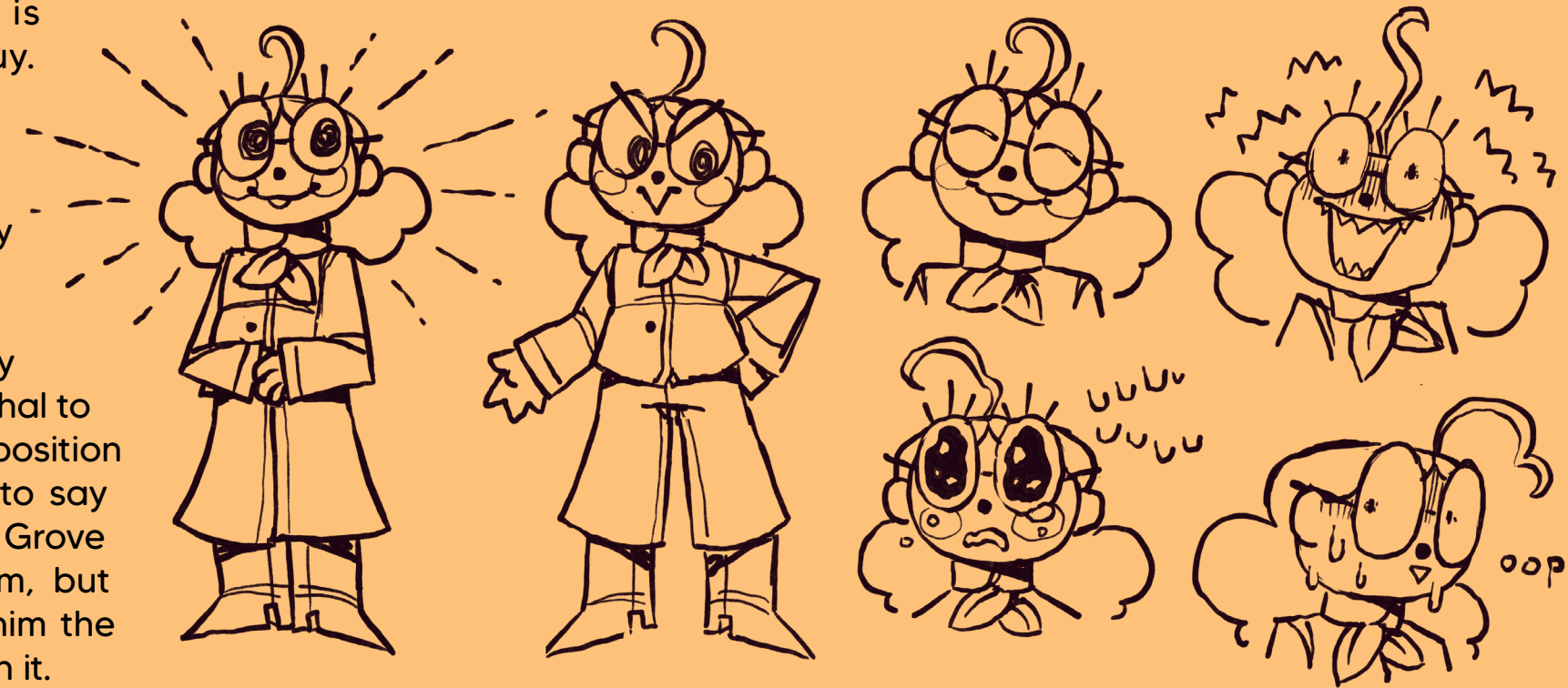


Finale



King

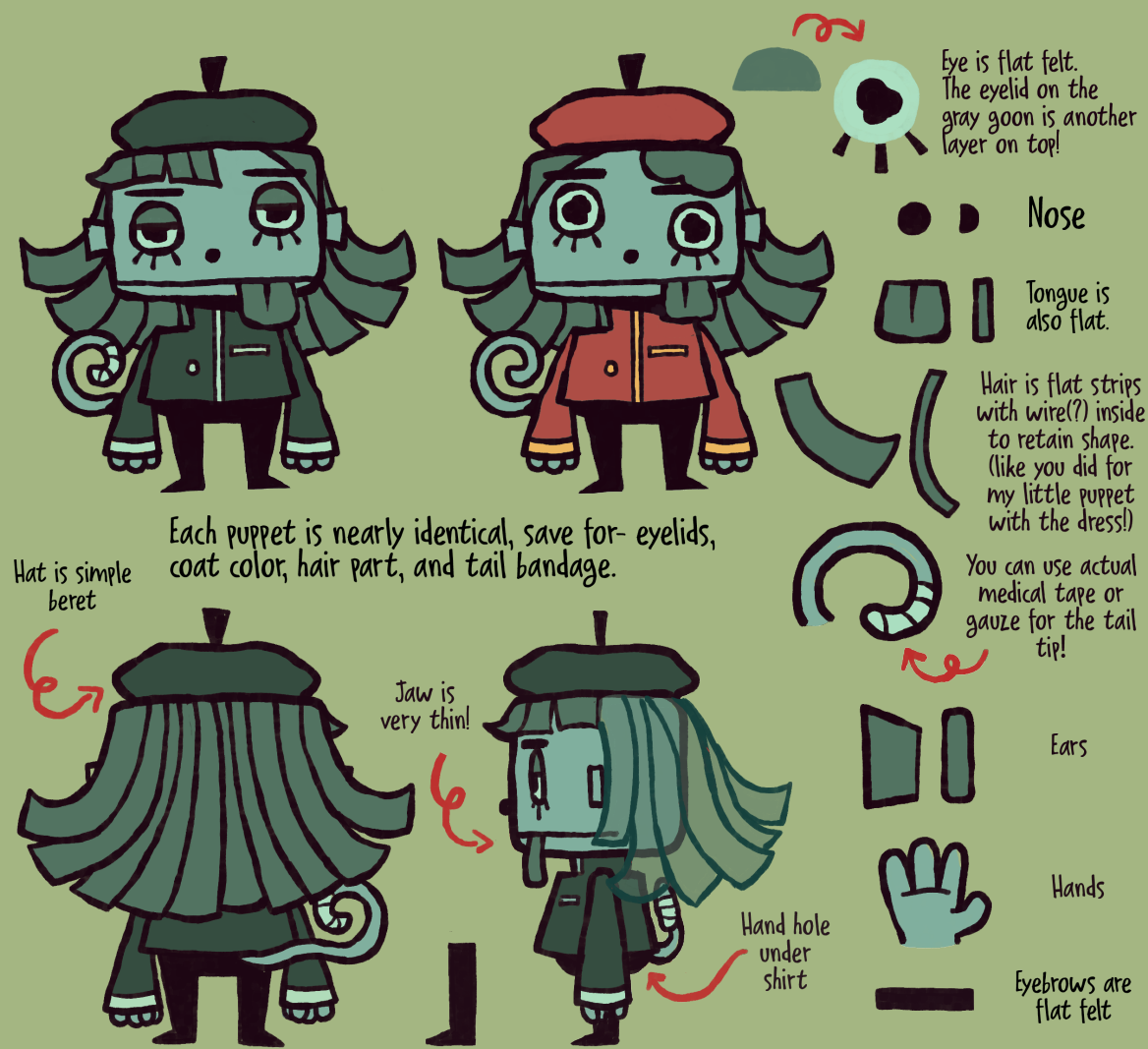
Yugo: Hector is a complicated guy. Someone who had nearly lost himself to loneliness and fear, corrupted by power, harming those who loved him most... finally having the wherewithal to withdraw from his position of power. It's hard to say if the people of the Grove will ever forgive him, but maybe they'll give him the chance to try to earn it.



Hector



Hector



Yugo: The Bizzyboy puppets were crafted by Tody and Gabi ("The Circus Cottage")- who made the Dr. Habit puppet in Smile For Me. Just like last time, I handed them the schematics (above), picked fabrics, and communicated with them as they worked. When the bizzyboys were redesigned to make them each more individual, we abandoned the old puppet eyes in favor of swappable face parts/accessories so that the puppet could be transformed into any one of the in-game Bizzyboys.

Puppetry

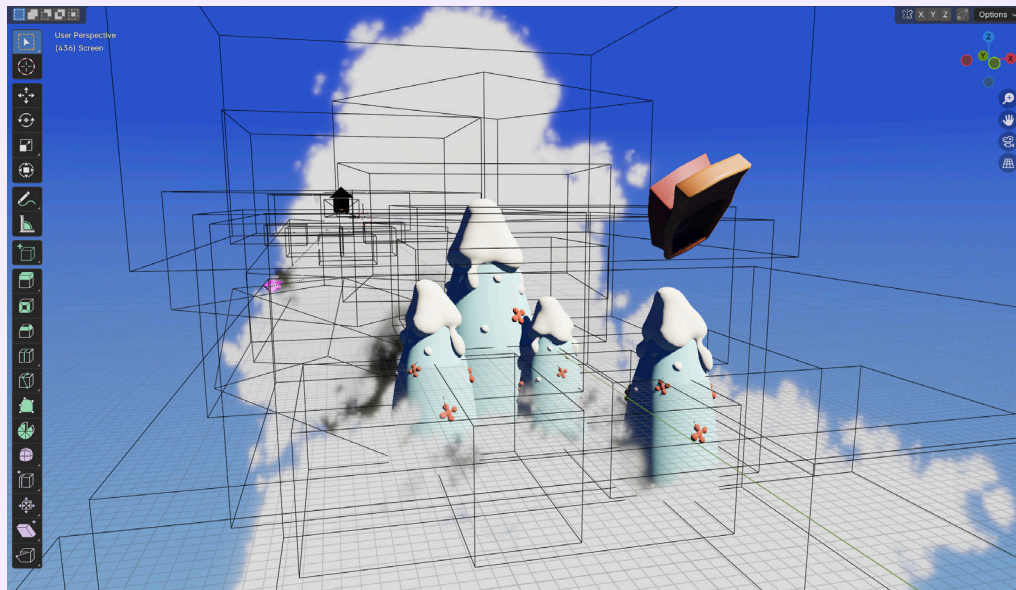




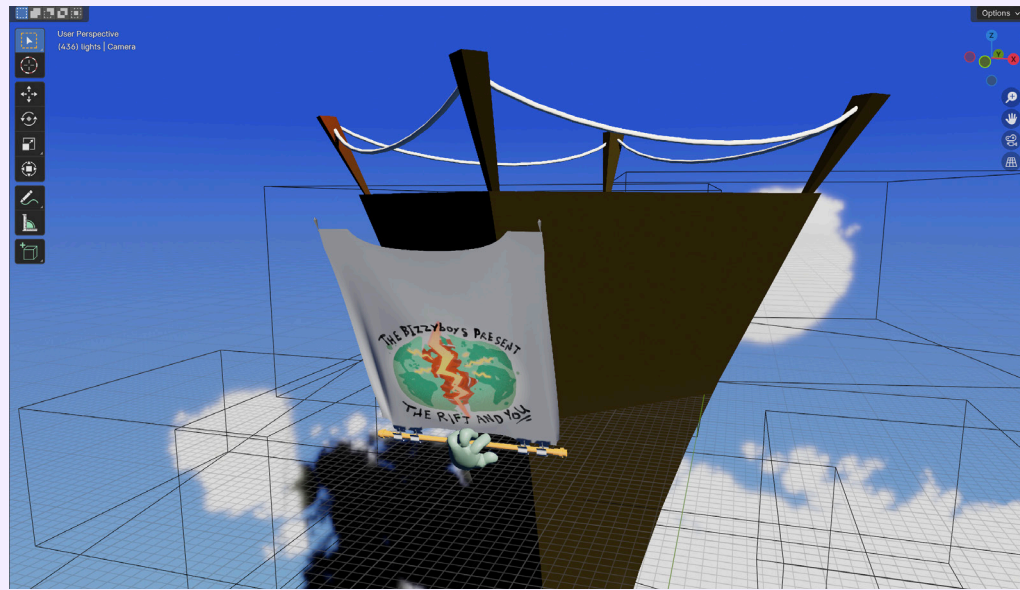


above: Crow S helps out on the set of "The Grove And You" - then it's selfie time!

opposite: Yugo and Crow S serve up a plate of blue-dyed steak, right from the heart of Capochin



above: Blender models used to animate the Bizzyboy video intro



below: Screenshots of the Bizzyboy video intro in-game



Day: Filming with Yugo is always a blast. This time around, we had help from Crow S and Val Eerie. Crow and I were on a cross-country roadtrip from New York, stopping in Seattle to film. We banged out all 4 in-game videos in just a few days, shooting in Yugo's apartment, public parks, and Snoqualmie Falls (featured in David Lynch's Twin Peaks).

The Bizzyboy instructional videos were inspired by the British educational program Eyewitness (1994 - 1997). I modeled and rendered a kitchy intro animation of the Grove- complete with dated shading- and Louie Zong composed a musical track that pays homage to the Eyewitness intro theme by Guy Michelmore





Puppetry



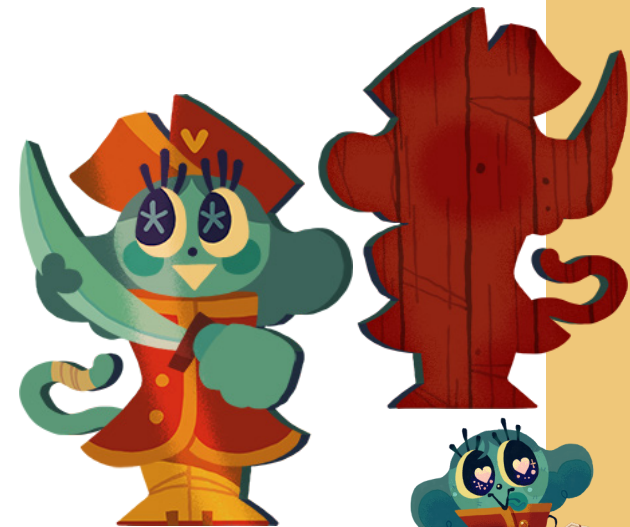
Puppetry



Day: Images of Inspekta and King were saved until later in development, so they could be added once the base of each chapter was established. Great God Grove is somewhat episodic, and the repeating visual motifs help tie all the smaller plots to the main plot: King's disappearance and Inspekta's rise to power. We didn't want players to forget the import of the impending apocalypse.

This is also why the Rift is visible in the background of almost every chapter.

Propaganda



I ended up absorbing some interesting composition & painting techniques from them. You can see the results on the in-game rendered posters and banners in the Bizzyboy puppet videos.

Propaganda



Yugo: I looked to 1900s war propaganda artwork as

inspiration for Inspekta's own propaganda from WW1 all the way through the Vietnam War. It was painful to sift through at times, but



I liked the idea that while a "fantastic person" lived, folks would make these elaborate artistic tributes, further deifying the person in question as if they were a biblical figure or something. In this case, you can see it happening with King, all the while others are vandalizing those very tributes.

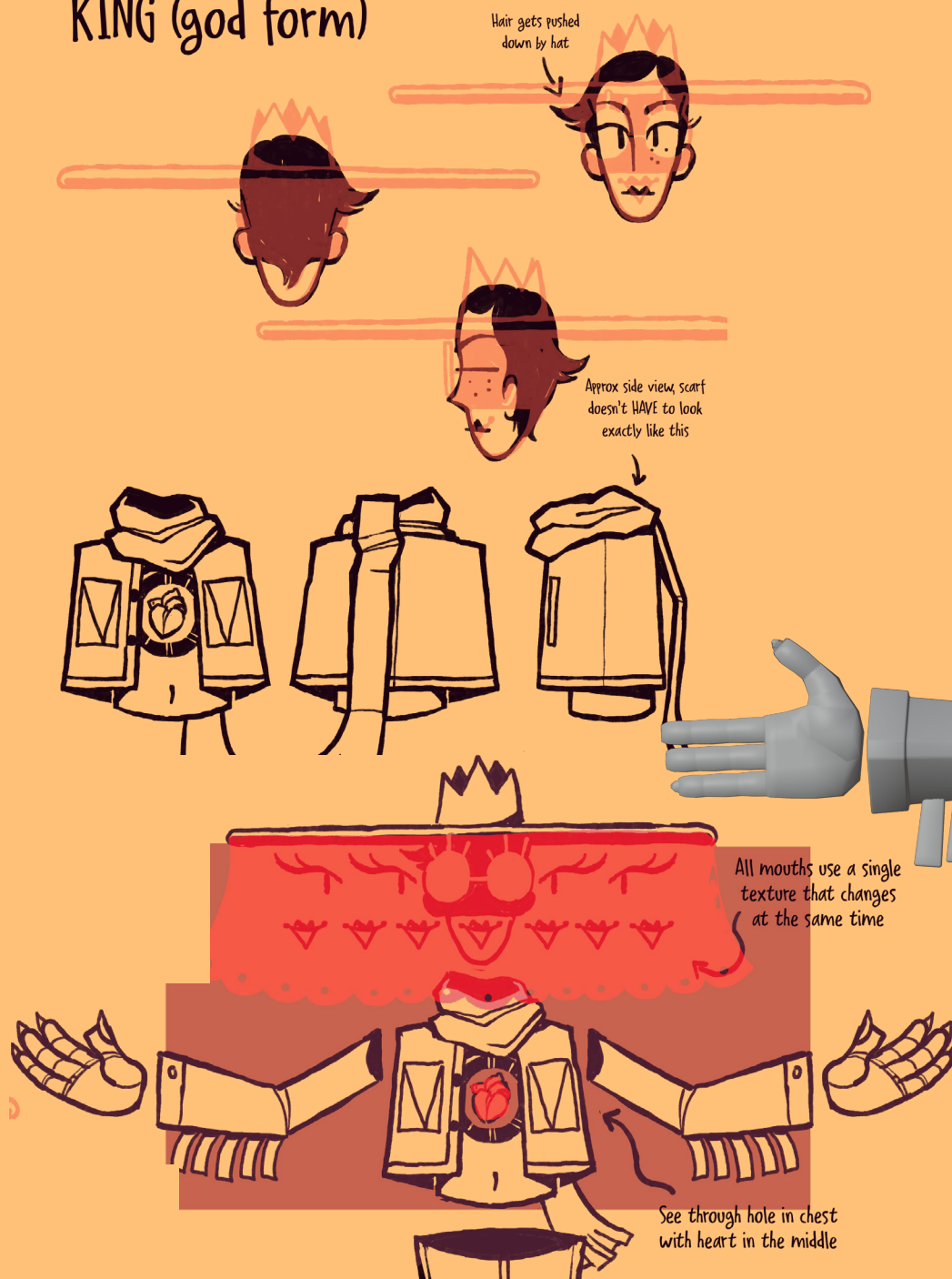
Yugo: I've always been fascinated by old religious art & reliquaries (art containing a body part of a saint)- they can be so terrifying, but beautiful at the same time.



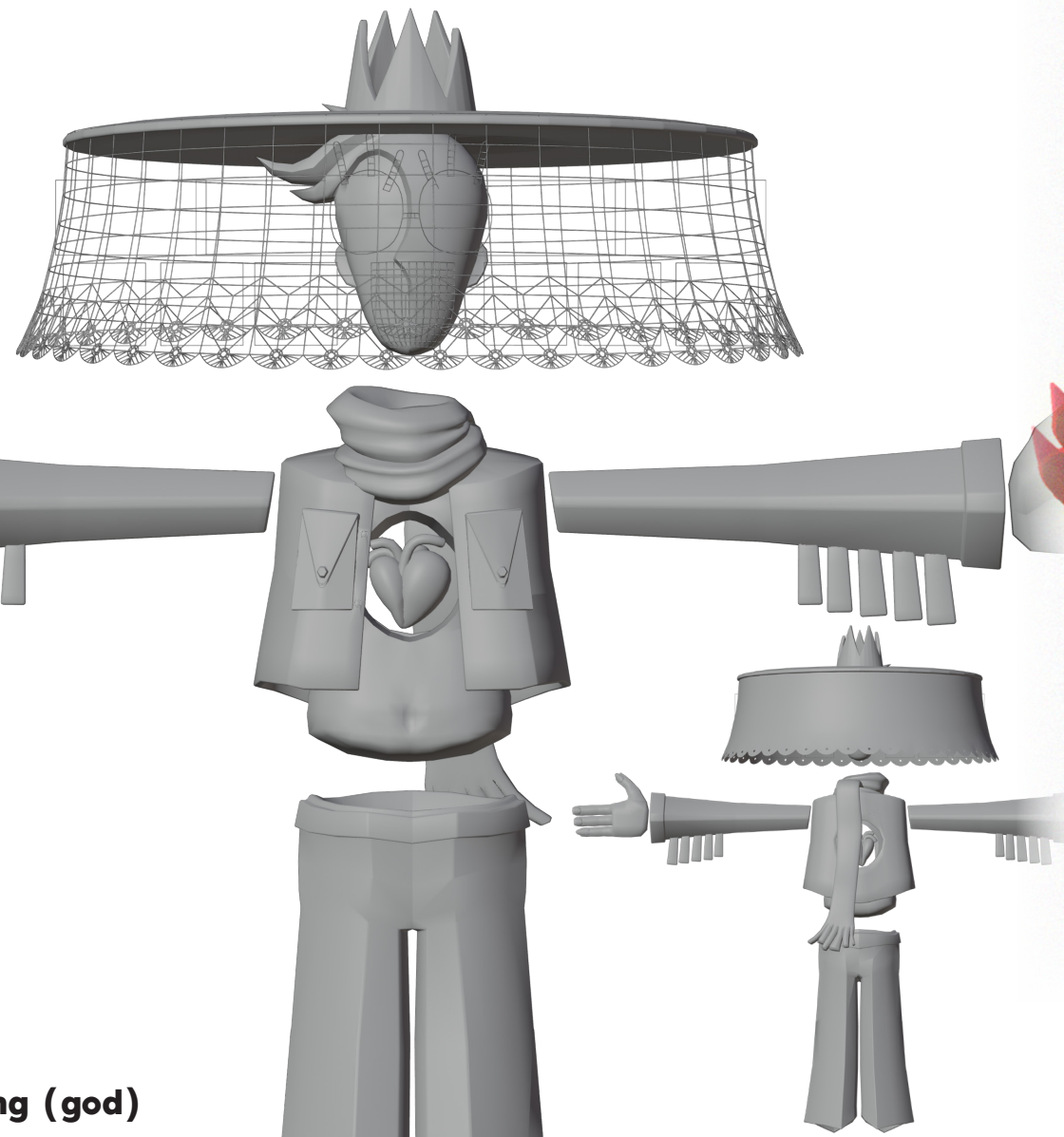
Miss Mitternacht herself was inspired by an old religious 'art piece'. St. Catherine of Bologna, one of the 'incorruptible saints' - a nun who's seated, intact body has been part of a massive art display for over 600 years to this day.



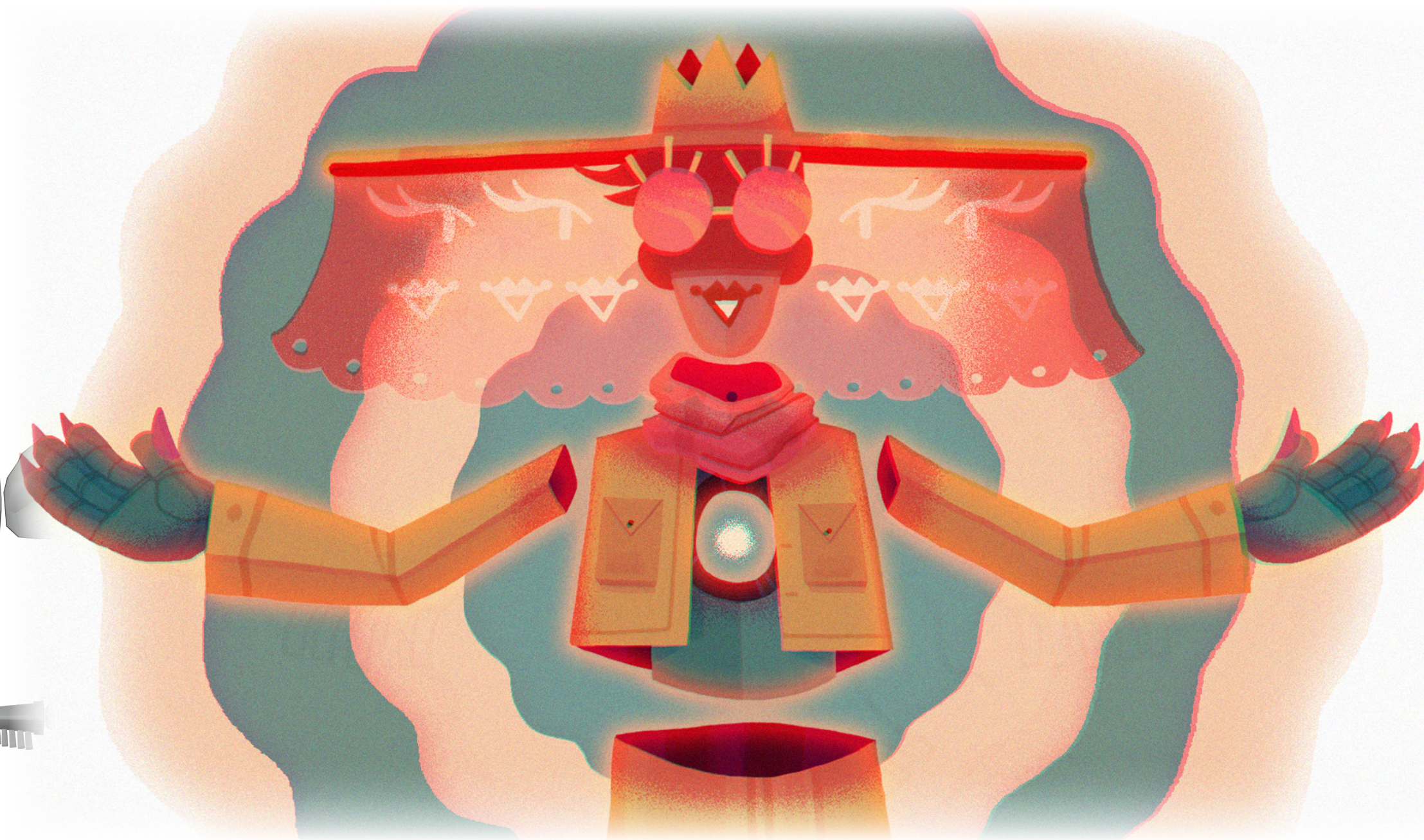
KING (god form)



Yugo: King's form changed less dramatically from human to god than any other of the Grove's deities. I like to believe this is because she was already deified so much as a human. Her sense of conviction and confidence was so strong that she barely needed to become any more godly than she already was.



King (god)



King (god)



LIMBOLANE
GAMES



